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LECTURES
ON THE
THEORY AND PRACTICE OF MEDICINE;
NOW IN COURSE OF DELIVERY AT THE
THEATRE OF ANATOMY AND MEDICINE, WEBB-STREET, SOUTHWARK.
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&c., &c.

THE CROUP-LIKE DISEASE. — *Disputes regarding the nervous system; Mr. Newport and Professor Grant; parallel passages. Causes of the croup-like convulsion; analysis of its symptoms. Dr. J. Clarke's description of the disease. Is the origin of the disease cerebral? Remarks of Dr. Merriman. Reasons for not adopting Dr. Hugh Ley's opinion. Probable theory of the disease. Treatment. Paralysis from dental irritation; remarkable case. Paralysis from intoxication. Successful performance of tracheotomy by Mr. Sampson.*

GENTLEMEN:—Before I proceed to the proper subject of this lecture, I must briefly allude to the exception that has been taken to § 15 and § 16 of Lecture I. The former, I find, by the concurrent testimony of *two* of Professor Grant's pupils, of 1832, to be perfectly correct; and the latter, by inference, from the admission of all parties. The points in question are *four*:—1. The *existence*, and, 2, the *function*, of *the third column* of nerves in the articulata; 3. The *dates* of the publication of these discoveries; 4. The *ingratitude* of a pupil who attempts to deprive his teacher of the merit of having taught both, and made one, of them.

503. Now the notes of the two pupils of Dr. Grant, state, that he showed and explained, in 1832, the plate of Prof. Müller, published in 1828, portraying the third column in the scorpion, and taught that this column was *aganglionic* in its structure, and *motor* in its function.

504. After this, the individual alluded to, a gratuitous pupil of Dr. Grant, and, through his means, of the other medical professors at the University, pretended to have made this discovery in the lobster, at the suggestion of Sir C. Bell, in 1833, and published it as such in the "Philosophical Transactions" for 1834. See *particularly* pp. 406, 408. The most *complete* refutation of the pretensions of this individual is afforded by Dr. Baly's notes, and those two paragraphs. I therefore subjoin them here:—

Extract from Dr. Baly's Notes of Professor Grant's Lectures in 1832.

1832.

"Müller has found in the scorpion, on the side of the knotted chord, a nerve passing down, having no connection, tapering towards the last ganglion, where it is removed with more difficulty." &c.

Dr. Baly gives a sketch of Müller's plate, made with the pen, during the lecture.

"We have seen nerves apparently corresponding to the nerves of *sensation*, *with* ganglia; and to the nerves of *motion*, *without* ganglia. Also, nerves of vegetative life, thought to supply the office of the nervus vagus and sympathetic."

N.B. Mr. Storrar's Notes are to the same effect.—See LANCET, p. 748.

Extract from Mr. Newton's Paper in the "Philosophical Transactions" for 1834, p. 406.

1834.

"It was during the early part of the summer of 1833, that I first had an opportunity of conversing with Sir C. Bell, respecting the nervous system of insects, when he suggested a closer examination of the chords than I had then made, to ascertain whether a double nervous column, one portion for sensation and the other for motion, exists in the *invertebrata*, as in the higher animals. He at the same time pointed out one of the *crustacea*, the lobster, as perhaps the most eligible for the inquiry. At that time I had no hopes of succeeding in demonstrating the parts by dissection, although I believed they really did exist. In the month of August, after many dissections and examinations of the animal in its recent state, I began first to hope for success; and in the

beginning of September completed a preparation of the nervous system of the lobster, that appeared to show the two motor and sensitive columns." &c.—p. 406.

Second Extract from Mr. Newport's Paper in the "Philosophical Transactions" for 1834, p. 408.

1834.

"The detection of a double spinal column in the lobster has since led me to examine more closely the nervous system of the scorpion, one of the *arachnida*. *Upon showing* my dissection of the lobster to Professor Grant, he directed my attention to a structure observed in the scorpion by Prof. Müller of Bonn, which *has been thought* to be the *motor* tract. This structure I had not at that time observed."—p. 408.

When we remember that these two pupils of Dr. Grant sat beside each other, we cannot but perceive that one of them has been guilty of "statements not in *strict* accordance with facts."

505. These, then, are the *facts* of the case. They do not concern me individually, except as being the truth. Much mystification and subterfuge have been employed in a recent discussion, but you have only to keep steadily in mind the *subject* of that discussion, viz., the *third abdominal nervous column* in the articulata,—its discovery, and the discovery of its *function*. (See § 15.)

506. But I proceed to the proper subject of this lecture.—The symptoms of hydrocephalus, and of the hydrocephaloid disease, are affections of the *cerebral* functions in the *first* instance, and of the *true spinal* in the *second*. In the croup-like convulsion this order is reversed, and the *true spinal* system is *first* affected, and the *cerebral* subsequently. This is an interesting and important view of the subject. It teaches us the order, not only of the symptoms, but of the remedies to be employed.

The Croup-like Convulsion.

507. In introducing to your notice the croup-like disease of children, I must advert to a subject which I shall notice more fully hereafter, viz., the division of the diseases of the true spinal system; 1. Into those originally seated in the incident, *excitor* nerves, of which the *type* is given in the figure in § 49; 2. Into those having their seat in the centre of this system, of which the *type* is given, § 31; and 3. Into those affecting the course of the motor nerves, and represented § 33.

The croup-like convulsion belongs to the first of these divisions. It arises from the irritation of

I. 1. *The Trifacial*,
2. *The Pneumogastric*, or
3. *The Spinal Nerves*,

during *dentition*, *indigestion* or loaded stomach, or *constipation* or loaded bowels. The effect of this irritation is conducted to the

II. *True Spinal Marrow.*

It is then reflected upon

III. 1. *The Superior Laryngeals*,
2. *The Diaphragmatic*,
3. *The Intercostals*,
4. *The Abdominal Nerves.*

508. This disease might be portrayed by a sketch, as has been already done.

All spasmodic diseases might be represented in a similar manner, and thus a view of these affections will be given, at once novel and distinct.

509. The general question of *convulsions* is one of the greatest interest. That the whole *class* of convulsive diseases consists of affections of the true spinal system, there is no longer any doubt. But these diseases do not all *originate* in this system. Some of them originate in the cerebrum; they then arise

1. From *counter-pressure* in diseases, or
2. From *contre-coup* in injuries of the encephalon;
3. From *irritation* in diseases of the *meninges*, or at the *base* of the brain;
4. From *exhaustion.*

510. In this manner we solve the difficult question of convulsions arising from affections of parts not endowed with the excito-motory property. Allow me to refer you to the observations formerly made upon the subject, § 272, and § 273.

511. It is in this manner that we explain the occurrence of convulsions in encephalitis and hydrocephalus, in meningeal or other affections of the base of the brain, or of the spinal marrow, and the effects of extreme exhaustion. In a word, convulsions belong to the *later period*, and the *close* of *all* the diseases of the nervous system, as, on the other hand, repeated convulsions eventually affect the encephalon.

512. But of convulsions *originating* in the true spinal system, some are *centric*, others *eccentric*. The former consist of disease of the true spinal marrow itself, the latter of affections of the incident nerves, and, through these, of the centre of the system. Such a case is the croup-like convulsion.

513. In treating of this affection, I propose to include eccentric convulsions in children generally, for they are parts of the same whole.

The principal *causes* of convulsions in children, in a practical point of view, are,

1. *Dental Irritation.*
2. *Gastric Irritation.*
3. *Intestinal Irritation.*

And here I must make the important, the all-important, practical remark, that I have *never* seen the measures suggested by this view of the causes, when *early* and *effectually* enforced, fail in remedying this disease.

514. Besides these especial causes, there are others which act upon the nervous centres. Passion, vexation, and certain odours, are of this class; and, singular as it may appear, the state of sleep *predisposes*, at least, to attacks of convulsions.

515. It is interesting to observe how the series of *symptoms* in the convulsions of infants are affections of the excito-motory functions.

516. Amongst the most frequent of the symptoms is *strabismus*; in a second case we may have contractions of the thumb and fingers, of the wrists, and of the toes and feet; next comes that affection of the *larynx* and of the muscles of *inspiration*, which has been so well described by the late Dr. John Clarke, as a "peculiar species of convulsion;" in other cases the *larynx* is actually *closed*, and there are an expression of fright, and, sometimes, retraction of the head, and violent convulsive *expiratory* efforts; in a fifth case there is an affection of the *sphincters* of the bladder and intestine, even leading to the idea of calculus. Compare § 38, &c.

517. One or more of these symptoms, or a sardonic smile, lead to a general *convulsion*.

Strabismus is the first of the symptoms which I have enumerated. Like the rest, it is sometimes acute, sometimes chronic in its character. The eye is turned inwards, most frequently, sometimes obliquely. The strabismus is variable, obviously augmented by teething, improper food, constipation or fret of the bowels, &c., and it is relieved by relieving these states of irritation. It is equally obviously increased by nervous agitation, by calling the muscles into greater action than usual, &c.

518. Very similar to the undue action of the muscles of the eye, inducing strabismus, is that of the muscles of the fingers and toes, inducing clenched hands and contraction of the feet. This affection is noticed by Underwood and Clarke, and particularly by the late Dr. Kellie of Leith; the last named writer published a paper expressly on it. It is augmented by causes similar to those which augment strabismus. It is, like strabismus, apt to assume a chronic character, and it always constitutes a symptom portentous of other forms of spasmodic and convulsive affection.

519. The peculiar convulsion described by Dr. Underwood, and especially by Dr. John Clarke, must next be noticed. Dr. Underwood describes it as combining a little blueness of the lips, slight turning up of the eyes, a *peculiar sound of the voice* (somewhat like *croup*), and a very quick breathing at intervals, frequently coming on during sleep, or any exertion of the body, or transient surprise.

520. Dr. J. Clarke's description of this disease is highly interesting. He observes:—

"This convulsive affection occurs by paroxysms, with longer or shorter intervals between them, and of longer or shorter duration in different cases, and in the same case at different times.

"It consists in a peculiar mode of inspiration, which it is difficult accurately to describe.

521. "The child having had no apparent warning, is suddenly seized with a spasmodic inspiration, consisting of distinct attempts to fill the chest, between each of which a squeaking noise is often made; the eyes stare, and the child is evidently in great distress; the face and extremities, if the paroxysm continues long, become purple, the head is thrown backwards, and the spine is often bent, as in opisthotonos; at length a strong expiration takes place, a fit of crying generally succeeds, and the child, evidently much exhausted, often falls asleep.

"In one of these attacks a child sometimes, but not frequently, dies.

"They usually occur many times in the course of the day, and are often brought on by straining, by exercise, and by fretting; and sometimes they come on from no apparent cause.

522. "They very commonly take place after a full meal, and they often occur immediately upon waking from sleep, though, before the time of waking, the child had been lying in a most tranquil state. As the breathing is affected by these paroxysms the complaint is generally referred to the organs of respiration, and it has been sometimes called chronic croup; but is very different from croup, and is altogether of a convulsive character, arising from the same causes, and is relieved by the same remedies as other convulsive affections.

523. "Accompanying these symptoms, a bending of the toes downwards, clenching of the fists, and the insertion of the thumbs into the palm of the hands, and bending the fingers upon them, is sometimes found, not only during the paroxysms, but at other times.

"Clenching the fist with the thumb inserted into the palm of the hand, often exists for a long time in children without being much observed, yet it is always to be considered as an unfavourable symptom, and frequently is a forerunner of convulsive disorders, being itself a spasmodic affection.

524. "It rarely happens that a child recovers from an attack of this sort, unless the progress of the disorder has been interrupted by a timely application of proper remedies, without a general convulsion. Then the friends become alarmed, and a disease which had existed for two or three months, is, for the first time, considered to be important enough to require medical assistance, after all the farrago of popular medicines, such as fit-drops, soot-drops,

assafœtida, &c. have been ineffectually applied.

525. "Convulsions of this description seldom, if ever, occur after the expiration of the third year of a child's life, and not often in children which have lived by sucking till they have teeth, and have never taken animal food till the dentes cuspidati have come through the gums; this, however, is liable to some exceptions."

526. The next question is that of the *nature* of this affection; and, in discussing this question, I must particularly notice the opinion of the late Dr. J. Clarke, that it is *cerebral* in its origin; and of the late Dr. Hugh Ley, that it arises from the compression of enlarged glands upon the pneumogastric nerve.

527. In reference to the opinion of the cerebral origin of this disease, I may observe:—

1. That the *changes* in the symptoms, whether for better, or for worse, are far too sudden to be dependent on *disease* within the head.

2. That the effects of its causes and of remedies are of a character totally different from what would be seen in such disease.

3. Hydrocephalus,—I mean tubercular hydrocephalus, — does not produce the croup-like convulsion. This statement must, however, be received with caution, and be submitted to new observation.

528. Meantime I may add the following remark with which I have been favoured by Dr. P. Hennis Green. This gentleman observes:—

"I have looked over 66 cases of acute and chronic meningitis occurring in children, which I possess in manuscript, and do not find a single example of the coexistence of 'crowing inspiration.' Most of the cases were examples of the 'tubercular' form. It should, however, be remarked that all were cases of the disease occurring in children above *twelve months* of age, and 'laryngismus stridulus,' I believe, generally attacks children under that age."

In reference to the opinion of the croup-like convulsion being dependent upon compression of the pneumogastric nerves, I must call your attention to the following observations:—

529. Dr. Merriman observes:—"It is by no means an uncommon affection of children, arising generally from *improper feeding*, and close and confined apartments. If timely attended to, the complaint commonly yields to *daily* aperients, so as to produce at least two copious motions, and continued doses of soda, a strong infusion of burnt sponge, with proper attention to diet and regimen. When the head is manifestly affected, cupping-glasses behind the ears are required: but when the patient has *cold, pale, flabby cheeks*, as I have not unfrequently observed in this disease, abstraction of blood is rather injurious than beneficial.

530. "*In two cases* of this kind, which were under my care nearly at the same time, *the children died in fits.* They were both opened by Mr. Sweatman, a very skilful anatomist, but *not the slightest appearance of cerebral affection* could be discovered in either of them. The principal deranged structure discovered, was a collection of small glandular swellings in the neck, pressing upon the par vagum."

531. It has been recently attempted, by Dr. Hugh Ley, to found the pathology of this interesting disease upon observations, such as that adduced by Dr. Merriman, but I think unsuccessfully.

532. *In the first place*, as far as my memory and judgment serve me, the cases adduced to support this view, are not cases in point, but, in reality, cases of other diseases.

533. *Secondly*, supposing pressure upon the pneumogastric to exist, it would induce totally different phenomena from those actually observed in this disease; and it would not explain the *series* of phenomena which actually occur in it; for,

534. *Firstly*, such pressure would induce simple *paralysis.*

This would, in the first place, affect the recurrent nerves, and the dilator muscles of the larynx; it would induce a partial but *constant* closure of that orifice,—a permanent state of dyspnœa, such as occurred in the experiments of Legallois, or such as is observed to be excited in horses affected with "*cornage*" or *roaring*, as described by M. Dupuy in his treatise "De la Fluxion Périodique," 1829, p. 117, &c.

535. *Secondly.* It would induce paralysis of the inferior portion of the pneumogastric, with congestion in the lung or lungs, and the well-known effects upon the stomach of the division of this nerve, with paralysis of the cardia.

The disease in question, on the contrary, variously designated, "*peculiar convulsion*," "spasm of the glottis," &c., is obviously a *part* of a more general *spasmodic* affection, and frequently, indeed most frequently, comes on in the midst of the first *sleep*, in the most *sudden* manner; receding equally *suddenly*, to return, perhaps, as before, after various intervals of days, weeks, or even months. Very unlike paralysis from *any* cause. Nay, the convulsive efforts in the muscles about the larynx are frequently quite obvious. There is even opisthotonos, or conprosthotonos, in some cases.

536. *Thirdly.* It not unfrequently involves or accompanies, as I have said, *other* affections *indisputably spasmodic*, as distortion of the face, strabismus, contractions of the thumbs to the palms of the hands,—of the wrists, feet, toes, general convulsions, sud-

den dissolution,—a series of phenomena totally unallied to paralysis.

537. *Fourthly.* Indeed the larynx is sometimes *absolutely closed*,—an effect which *paralysis* of the recurrent nerve, and of the dilator muscles *cannot* produce.

538. *Fifthly.* Paralysis from the pressure of diseased glands would be a far less *curable* disease, a far *less variable* disease, a far *less suddenly fatal* disease than the croup-like convulsion.

539. *Sixthly.* Almost all recent cases are at once relieved by attention to three or four things, viz.: the state, 1, of the *teeth*; 2, of the *diet*; 3, of the *bowels*; and 4, by change of *air*; they are as obviously produced or reproduced by the agency of errors in one or more of these.

540. *Seventhly.* In fact, the croup-like convulsion is a *spasmodic* disease, excited by causes situated in the nervous centres, or eccentrically from them; in a case of spina bifida already mentioned, a croupy and convulsive inspiration was induced by gentle pressure on the spinal tumour; in cases from teething the attack has been induced and removed many times by *teething*, and by freely *lancing the teeth*, by crudities, and by emetics and purgatives, by change of air, &c.

541. *Eighthly.* There is a series of facts which prove the connection of this disease with other forms of convulsions in children, and with epilepsy in the adult subject.

542. *Ninthly.* In protracted cases, congestion and effusion within the head occur as *effects* of this disease.

543. *Lastly.* Innumerable cases of undoubted croup-like convulsion have occurred, in which no enlarged glands could be detected in any part of the course of the pneumogastric nerve.

544. But if the contiguity of enlarged glands with the pneumogastric have any concern, in any case, in causing this disease, I believe the action is one totally different from that assigned, and not suspected by the author of this opinion. It is obviously an action upon this nerve, as an *incident excitor* nerve, and not as a mere *motor* or *muscular* nerve.

545. I must here detail an experiment upon the pneumogastric, made by Mr. Broughton, but hitherto unapplied to any question in physiology or pathology. The pneumogastric was laid bare in a donkey, and pinched *continuously* by the forceps; the animal made a sudden act of inspiration and of deglutition. The nerve was divided; the *upper*, or *incident* portion of the nerve, was pinched with the same effect as before; the *lower* extremity of the nerve was pinched without any effect.

I may here, also, refer once more to the interesting experiments by M. Dupuy, p. 130, &c. for a similar fact.

546. In this manner, I conceive, *irritation* of the pneumogastric in the neck *may* have induced the croup-like convulsion. *Pressure* upon this nerve, inducing paralysis of its remote extremity, *could not* possibly induce the phenomena in question.

547. It would be difficult to adduce a more convincing proof of the *pathological* and *practical* importance of the views of the nervous system, which I am laying before you.

548. I venture to *suggest* another view of this matter as nearer the truth, viz., that this disease is induced through the *fifth* pair of nerves in *teething*, the *pneumogastric* in indigestion, and *spinal* nerves in constipation, as parts of the excito-motory system. The view itself *points* to the most useful and efficient *remedies*, and this is highly important; it points to the teeth, indigestion, and constipation, as *causes*, and to the well-known means of removing them; it points to the important objects involved in change of air, mental quiet, &c.

549. If, instead of the popular remedy, (the warm bath), the *gum-lancet*, and full warm water *enema*, were *instantly* administered, many little patients would be saved from the effects of this terrible disease. The diet should be barley-water only.

550. The respiration is actually arrested by closure of the larynx; there are forcible expiratory efforts only, or principally, in the actual convulsion. This need scarcely be described; the eyes are distorted from their axes; the face is drawn into horrible forms; the mouth is filled with foam; the body and the limbs are variously and shockingly convulsed. The countenance is livid with venous blood, affording an index to the condition of the brain. There is perfect coma, sometimes long-continued, or there may be sudden dissolution.

551. Sometimes a more transient and partial convulsive movement occurs, like an electric shock. In one deeply interesting case, such a convulsive affection was sometimes ushered in by a sardonic smile. In other moments the little boy was obviously expecting the shock in alarm.

552. In another very interesting case there were strangury and tenesmus, symptoms leading to the suspicion of calculus. The lancing of the gums afforded immediate relief.

553. As in the affection noticed in my last lecture, cerebral disease was described as frequently leading to convulsion; so, in those which I have just mentioned, the convulsion frequently leads eventually to cerebral disease, especially congestion and effusion. The due relation of the disease of the cerebral and true spinal subdivisions of the nervous system is plainly seen. Hitherto there has been little but confusion in our views, both of the pathology and treatment of these several diseases.

551. We may now discern that, whilst in

the cerebral diseases our remedies were chiefly directed to relieve the morbid condition of the arterial or capillary circulation within the head, in the diseases of the true spinal system, our efforts must be made to remove the cause, or causes, of these diseases, whilst we guard against their effects, viz., undue venous congestion of the cerebrum, and of effusion.

555. I need scarcely advert to the erroneous views, and, consequently, erroneous mode of treatment of this affection, of those authors who have considered it as originally an affection of the encephalon. Cause has been mistaken for effect, and effect for cause. The effusion, for example, which is the effect of the previous convulsive struggles, has been considered as their exciting cause. The whole confusion upon this point has arisen from not observing to what subdivision of the nervous system the first symptoms belong. I quite agree with Dr. Merriman in condemning, as useless, or rather as injurious, the indiscriminate and lavish detraction of blood.

556. The proper mode of treatment comprises the remedies—

1. *Against the attacks.*
2. *In the attacks, and in the threatening of the attack.*
3. *Against their effects.*

557. The remedies against the attacks, or the prevention, consists in avoiding all the exciting causes: dental, gastric, intestinal irritation; passion; vexation; disturbance; interrupted sleep, &c.

558. The remedies in the threatening of attacks consist in the watchful and prompt repetition of the same treatment; lancing the gums, relieving the stomach and the bowels. The *sleep* especially should be watched, and if there be a sardonic smile, or starting, or other symptoms, the little patient must be *gently* awoke, and the remedies just enumerated should be administered.

559. After the gum-lancet I would advise a copious enema of warm water.

If there be great threatening of an attack, I would tickle the fauces, dash cold water on the face, and irritate the nostrils, having the patient placed, as speedily as may be, in the warm bath.

560. To guard against the effects of the attacks, we may deplete the blood vessels about the head with cupping, or leeches, apply an alcoholic lotion constantly all over the head, or, if the case be urgent, the ice-cap.

561. In addition to these measures, the secretions must be corrected, mild mercurials being given, perhaps, to affect the system; afterwards change of air is of undoubted efficacy; and a very mild tonic plan may be added with advantage, as minute doses of the sulphate of quinine, of the carbonate of iron, &c. Sponging with *warm* salt and water is also a valuable auxiliary remedy.

562. It is impossible to misconceive the vast importance of this subject. If anything could add to this importance, it is the fact that the convulsions of infancy frequently lay the foundation of epileptic attacks in youth, or adult age. Sometimes the transition is so gradual and continuous, that the two affections are proved to be obviously the same.

The subject of *dentition* has not even yet been fully investigated, in reference to convulsion. Is the *temperature* augmented? This point should be determined by a thermometer. Is there a state of *sub-inflammatory* action? And may not *this* be subdued by scarification of the gums, on the same principle as inflammation of the conjunctiva? Does this view afford us a new and important motive for a more frequent and extensive use of the gum-lancet? May the *excitation* of the trifacial nerve be thus removed, and its *effect* subdued? With these objects the gums should be fully divided, not once, or occasionally, but *twice*, or even *thrice, daily*. Anything rather than repeated attacks, which may lead to convulsion, and eventually to cerebral disease and enfeebled intellect, or crippled limbs.

With the same objects, the diet and the condition of the bowels must be attended to with *equal* energy. *All* irritation must be avoided, and amongst these *drastic* medicines must be arranged. A young nurse's or asses' milk should constitute the former. Enemata of warm water may be used effectually to relieve the bowels, night and morning.

The tinctura hyoscyamis, and the hydrocyanic acid, are important auxiliaries, but especially change of air.

A cold lotion, the ice-cap, perhaps leeches, must be used to guard the head; the feet must be fomented, and kept carefully warm.

563. I shall conclude this lecture by calling your attention to a case not hitherto well known to the profession, viz., *paralysis from dental irritation.*

A little girl, aged twenty months, was taken, when suffering from dentition, with loss of the power of elevating the right arm —that of closing the hand remaining; there was no *other* symptom of cerebral affection. The suffering from dentition was undoubted, I therefore concluded that the case was one of paralysis from teething.

564. The gums were freely lanced, the bowels well moved, the diet strictly regulated; and, for *fear* of hidden disease within the head, two leeches were applied. An embrocation was prescribed for the arm.

A few days after the attack of paralysis, this little girl was seized, in the early part of the night, with a fit of crowing inspi-

ration. This event confirmed *me* in my diagnosis.

The event justified the view I had taken. The child recovered *perfectly*, without any energetic remedy being used for cerebral affection, by continued attention to the state of the gums, the stomach, and the bowels; an event which could scarcely have occurred, from such simple measures, had there been such decided affections, arising from cerebral disease.

565. This case was watched with peculiar interest, from the circumstance of its occurring in the family of a medical friend, Mr. Grant, of Thayer-street.

566. But I will give this interesting case in Mr. Grant's own words:—

"M. A. G——, at twenty months, has been suffering for some time from dentition, being fretful, and having a cough during the night. This morning, April 30th, 1835, her mother observed that she was incapable of raising the right arm; she retained the power of swinging the arm backwards and forwards, and bending the forearm on the arm, but had not the least power to raise the arm itself, as if the deltoid muscle only was paralysed. On examining the arm the child suffers no pain, and there is not the least reason to believe that any accident could have occasioned this loss of power. The general health of the child, with the exception above mentioned, is excellent; appetite good; bowels are every day relieved.

"Dr. Marshall Hall, on seeing the child, recommended a gentle emetic, followed by a dose of castor-oil; the gums, over the four eye teeth, which are all coming forwards, to be carefully lanced every second day; and, alternately, an embrocation to the arm, and a light unirritating diet.

"May 7th. Little alteration in the state of the arm, which the child is perfectly unable to raise in the smallest degree. The castor-oil is given every morning, which produces free and healthy evacuations; the gums have been repeatedly lanced, but the teeth do not advance; she still coughs during the night, but last night she had several fits of coughing, resembling the convulsive crowing of croup; but, as there was no heat of surface, or quickening of pulse, nothing was done. To-day it was considered prudent to apply two leeches to the back of the ear, and have the hair removed from the back part of the head, and the same plan of treatment as before was pursued.

"14th. There has been no return of the crowing cough, and the child's general health continues very good. She now evidently has regained some power in raising the arm; continue the mild diet; occasional doses of oleum ricini, lancing the gums, and the embrocation to the arm.

"21st. She daily acquires more the use of her arm. One of the teeth has come up to the surface, and the others are advancing.

"June 10th. She has nearly regained the complete power of her arm; her night cough is almost gone, and general health improving. The other teeth are not quite through yet; regularity of diet and attention to the bowels enjoined.

"August 20th. The child has been for some time in the country, and has perfectly recovered the use of her arm. The four teeth are quite through. Up to the present time she has never changed her diet in any way, taking bread and milk for breakfast and supper, and bread-pudding, with a single egg in it, for dinner. Her bowels are so regular that she has required no medicine for some time.—August 20th, 1835."

567. Before I conclude this subject, and that of diseases of the nervous system in *infants* and *children*, I must very briefly notice a *paralysis* of a different kind.

568. We frequently observe a *hemiplegic* paralysis from defective development of the opposite hemisphere of the cerebrum. (See § 150.) In this case *both arm* and *leg*, but chiefly the arm, are involved in the paralysis. But it occasionally happens that *one leg only* is affected with a *partial* paralysis; the limb does not *grow* as the other leg does, but remains thinner and shorter; yet it does grow, so that the paralysis is not complete, and it is moved, only with somewhat less power than the other leg. What is the nature of this partial paralysis? Is it of dental origin? Is it an affection of the spinal marrow, or of its nerves, equally partial? Cases, and careful examinations, are entirely wanting to determine these questions. I think this subject might be illustrated by the experiment of dividing the posterior, or *ganglionic* nerves of the spine, which proceed to the lower extremity in a very young animal. Sensation with *nutrition* would be lost, or impaired, whilst the muscular power would remain.

569. But sometimes the muscular power is entirely paralysed. You may compare the following interesting case of the son of my friend, Dr. Webster, of Dulwich, with one taken from Dr. Abercrombie's able work:—"When my boy was about twenty months old (he is now nine years) he had a fit of illness, connected with dentition, which threatened the brain, and for which I opened the jugular vein and purged him. This took him off his feet, and, very soon after, he had a fall from a rather high crib-bed; but this was not attended or followed by any apparent bad consequences. The child recovered his health; but for some weeks he seemed to have almost entirely lost the use of his legs, and, being uneasy about him, several of my medical friends saw him, among others, I think, yourself. He gradually, however, began to walk again, but

not so steadily as before, as he tottered much in his steps, and was constantly falling over every little object that happened to be in his way, and he had much less command over the left limb than the right. He seemed to walk on his toes. It was not at first ascertained that one leg was more affected than the other; but as he grew up and was breeched, the matter became more apparent; he plainly walked more firmly on the healthy limb, and less so on the lame one, and he threw it about more in walking and playing, and rarely set down the heel, except when walking slowly; never when running. He now runs on the toes of that foot, and with a sort of lurch; the limb is less firm; the muscular power is evidently less, but the sensibility seems equal to the other. I have only to add, that the affected limb is about an inch shorter than the other, which is the reason of his walking on the toes."

570. "It is now upwards of twenty years since I first saw a girl, aged, at that time, about eighteen months, and previously enjoying excellent health. She had been left for some time sitting upon damp grass, and was immediately seized with fever, accompanied by such a degree of oppression as led to an apprehension of an affection of the brain. These symptoms, however, passed off in a few days, and upon her recovery from them it was found that she was entirely paralytic in the right lower extremity. She has from that time enjoyed uninterrupted health, and is now a tall and strong young woman; but the right lower extremity has continued entirely paralytic; it is also a great deal smaller than the opposite extremity, and several inches shorter. All the joints are remarkably relaxed, and the muscles flaccid; but there is no other appearance of disease in any part of it, or in the spine."

In concluding this, I wish to advert once more to the subject noticed § 533.

There *is* such a case as paralysis of the pneumogastric nerve, and of the dilator muscles of the larynx; it occurs in deep intoxication, and probably in other cases of coma, as in that of apoplexy, of epilepsy from opium, &c.

A patient affected with such paralysis from deep intoxication was rescued from impending death by tracheotomy, at the suggestion of Mr. Sampson of Salisbury. The case is published in the "Medico-Chirurgical Transactions," vol. xx. p. 45, and forms one of the *most splendid achievements of modern Surgery*. I shall revert to it hereafter.

This interesting case contrasts painfully with a case of spasmodic contraction of the larynx, from a portion of food arrested in the upper part of the œsophagus, published by Mr. Kirby, in the "Dublin Hospital Reports," vol. ii., p. 225. Tracheotomy was here, also, performed, but it was too late.

LECTURES
ON
MATERIA MEDICA AND THERAPEUTICS;
NOW IN COURSE OF DELIVERY
AT THE
WINDMILL-STREET SCHOOL OF MEDICINE.
BY
GEORGE G. SIGMOND, M.D.

ZINC—ZINCUM.

ZINC—BISMUTH—TIN.—*Natural history of zinc; salts of zinc; the oxide; its medical properties; the carbonate; formula for preparing the sulphate of zinc; action of the sulphate in epilepsy and in chorea; necessity of distinguishing these affections from hysteria.* BISMUTH.—*The pure metal; its nitrates. Poisonous effects of the trisnitrate; practice of the German physicians; its value in certain affections of the stomach; the pearl-powder.* TIN.—*Remedial powers of the metal. Hydrochlorate of tin. Labours of the German and French chemists.*

GENTLEMEN:—The salts of zinc have been introduced into medicine, and possess some useful properties. Paracelsus gave this metal the name by which it is known to us; he mentions this and bismuth as substances approaching to metals, but not really metallic, as they wanted two properties, which he believed to be the essential characteristics of metals, fluidity and ductility; he states that zinc is a spurious offspring of copper, and bismuth of tin. Agricola called it contre-feyne, and Boyle, speltrum.

Zinc is found in great abundance in most of the mining countries of Europe, and likewise in India, from whence it is brought to us under the name of tutenague; pure zinc is of a brilliant white colour, with a bluish tint, and has a very distinct lamellated texture; it weighs 7.190; it fuses as soon as it becomes red-hot at 773°; if heat be continued after this fusion in close vessels, it rises into vapour, sublimes, and forms a brilliant metallic substance, on the upper part of the vessel. If the metal be acted on in a crucible by fire, until it becomes of a bright-red colour, on exposure to the atmospheric air, and, if it be at all agitated, it suddenly takes fire; it emits a flame which is very striking, tinging every object with a slight greenish hue, but shedding around a most brilliant lustre; an oxide of zinc is formed, which appears floating in the air like a white flocculent substance, and a thick smoke having some odour, and affecting the throat and fauces; this oxide, formed in the air, has been called philosopher's wool, pompholyx, nihil album, and flowers of zinc.

For medicinal purposes this oxide of zinc, which contains one proportional of metal, and one of oxygen, is best made by precipitating a solution of sulphate of zinc, by ammonia, and then washing and drying the precipitate, and a formula exists for it in the Pharmacopœia, which orders us to take sulphate of zinc a pound, sesquicarbonate of ammonia six ounces and a half, distilled water three gallons; dissolve the sulphate of zinc and sesquicarbonate of ammonia separately in twelve pints of the distilled water, and strain, then mix, wash what is precipitated frequently with water, and, lastly, burn it for two hours in a strong fire; the sulphuric acid which was in combination with the zinc leaves it for the ammonia, forming the sulphate of ammonia, which remains in solution; some of the carbonic acid unites with the oxide of zinc to form a carbonate of the metal, which is precipitated in the form of a white powder, but when this is dried and ignited the carbonic acid is set at liberty, and the oxide remains of a yellowish-white colour, without odour or taste; it is not soluble in water; this enters into the composition of the ointment of zinc in the proportion of an ounce to six ounces of prepared lard.

The carbonate of zinc is sometimes found native; it is often confounded with the oxide of zinc, and many chemists doubted its existence; this is the calamine of the old mineralogists; it occurs abundantly in many parts of England, as in Derbyshire and in Somersetshire, and the prepared calamine of the pharmacopœias is obtained from the impure calamine, which is mixed with ores and earthy matter, by burning it and bruising it, and reducing it to powder, by elutriation, in the same manner as the prepared chalk is obtained, by which it is reduced to a very fine powder; this calamine enters into the formation of the cerate, known under the name of Turner's cerate, in the proportion of calamine and wax, each half a pound, and of olive oil sixteen fluid ounces; there is a variety of calamine which is called electric calamine, from the circumstance of its becoming electric when heated. Calamine is almost entirely soluble in diluted sulphuric acid, emitting a few bubbles of carbonic acid, unless it has been previously burnt; the solution, when ammonia or potash is added to it, gives a precipitate which either of them, added in excess, dissolves.

The acids act with remarkable facility upon zinc; the only one that we have to consider is the sulphuric acid. The sulphurets of zinc are familiar to the mineralogist under the name of galena, or of blende; they are remarkable for their phosphorescence, and the slightest friction in the dark will cause them to emit a blaze of light; the sulphate of zinc, which also is found in its native state, is easily formed on a large scale by the action of water and hot air upon the sulphuret; but the best means of obtaining it are to pour sulphuric acid, diluted with water, upon zinc, in filings, or in fragments, a lively effervescence is produced, and the solution is much heated; a decomposition occurs, by which the hydrogen of the water is given off, the oxygen unites with the zinc to form an oxide, which is taken up by the sulphuric acid, and forms the sulphate of zinc; the hydrogen gas thus extricated is remarkable for its purity, and was, therefore, employed by Fourcroy, by Seguin, and Vauquelin, when they proved that the analysis made of water was correct, by again synthetically forming it.

The process of the Pharmacopœia is:—Take of zinc, in small pieces, five ounces, diluted sulphuric acid two pints; pour gradually the diluted sulphuric acid upon the pieces of zinc, and the effervescence being finished strain the liquor, then boil it down until a pellicle begins to be formed; lastly, set it aside that crystals may be formed. There exists in commerce a sulphate of zinc, known under the name of white copperas, or white vitrol, which is said to contain a small proportion of iron. The sulphate of zinc of the Pharmacopœia should be totally dissolved by water; what is thrown down by ammonia is white, and when the ammonia is added to excess it is again dissolved on the addition of chloride of barium, or of acetate of lead, the crystals are decomposed; the primary form of this salt is a right rhomboidal prism, and the crystals should be transparent, small, and colourless, they are of a very styptic metallic taste.

Zinc and its chemical preparations, though employed from an early period as medicinal agents, possess many deleterious properties which render them objects of some attention during their administration, and they require to be used both internally and externally with a due degree of caution.

The sulphate of zinc has some claims to our attention as a tonic, but more as an emetic, and also as an application to the surface of the body in states of superficial inflammation. As a tonic from one to three grains may very properly be given in the course of the day; from one to twenty grains where its emetic power is to be obtained, and it very speedily operates; a larger dose may not prove so injurious as an intermediate dose; in one instance a young lady accidentally swallowed two ounces of white vitrol in solution, the consequences were immediately visible. The countenance became pallid, the extremities cold, the eyes of a heavy dull appearance, whilst the pulse fluttered; an acute pain in the region of the stomach, accompanied with a sensation of burning, came on, violent vomiting supervened; potassa was given in syrup, the pain gradually ceased, as did the vomiting, and a complete recovery took

place; on the other hand, Foderé relates that which occurred to one of his patients, a custom-house officer, who obtained from a druggist six grains of sulphate of zinc, with which he proposed to cure a gonorrhœa under which he was at that time labouring; he was attacked with inflammation of the lower belly, attended by retraction of the navel, and with severe colic, which yielded only to repeated abstraction of blood, both local and general, to oleaginous emollients, and to the warm bath.

The very large doses that have been given in epilepsy without producing any mischievous effects have been ascribed to the insensibility of the stomach, which it would appear occasionally supervenes in that disease, and the same torpor has prevented the emetic effect of very large doses of the sulphate of zinc, where some of the most energetic of the narcotic poisons have been taken; it, however, has been always considered the most useful of the emetics where an immediate emergency has demanded an active agent of this character, and it has obtained the reputation of being the mildest of the metallic salts which provoke this effect on the stomach.

Where epilepsy occurs early in life, and where there is reason to believe, from the sickness, the nausea, the flatulence, the state of the bowels, and the loss of appetite, that it is dependent upon disordered digestion, and that there is not direct pressure upon the brain, an emetic of sulphate of zinc is frequently to be repeated. Dr. Clarke, to whom we are so much indebted for a proper knowledge of the treatment of the diseases of children, gives his recommendation to administer an emetic of sulphate of zinc in an aqueous infusion of ipecacuanha, and to repeat it in six, eight or, ten days, according to circumstances. To a child of four years of age he has given six grains of the sulphate of zinc in half an ounce of an infusion of fifteen grains of ipecacuan in an ounce of boiling water. In a child of two years old the dose will range from one to three grains of white oxide of zinc; from one to six grains, where it is not intended to produce nausea and vomiting, but simply to produce the tonic effect which the metal is capable of doing. To adults, in chronic epilepsy of long standing have been given with very great success emetics of sulphate of zinc, at first once in the week, then every fortnight, and gradually less frequently, until the paroxysms have disappeared.

A curious case occurred at the *North London Hospital*; a female (one account states her to be nineteen, another twenty-nine) was subject to epileptic fits, which occurred almost every day for six months before she was admitted into the hospital. She began with two grains of sulphate of zinc three times a day; this produced a marked alteration in the fits, they were of shorter duration, but an uncontrollable laughter and perpetual merriment were produced; the dose was increased on the third day to four grains; on the sixth day, to six grains; and at last, between the 19th of March, and the 12th of April, to fourteen grains, three times a day, when symptoms of gastritis were produced, which being relieved, the medicine was again employed, but then five-grain doses could only be taken, any quantity beyond that being injurious to her stomach. During her submission to this treatment, it would appear that it had the most singular effect, that of intoxicating her; the ultimate advantages or disadvantages of these large doses, and of the sequela of the case we unfortunately could not become acquainted with, for the misconduct of the girl caused her to be dismissed from the hospital.

Both the sulphate and the oxide of zinc have been very successfully given in chorea, and many very distinguished medical men have, at various periods, called our attention to them. At the *Bristol Dispensary* Mr. Bedingfield tells us, some years ago, that out of forty cases that presented themselves, thirty-nine were cured by the oxide of zinc, given in five-grain doses, three times a day, gradually increasing the quantity to a scruple; probably the conclusion he drew was such that cannot be assented to by all who have since had opportunities of giving it a full and impartial trial; for he has said "so speedily and decidedly did this remedy put a stop to the disease, that I cannot avoid regarding it as a specific for it." Chorea occurs under so many extraordinary forms, and is excited by such a variety of causes, where there is any predisposition to it, that no one remedy can be declared to be decidedly useful. This disease appears to occur very frequently in this country, or at least it is often developed at a later period of life in females than formerly seems to have been thought. I have lately seen some cases of it, to which the name of hysteria has been very injudiciously given, as it has led to erroneous treatment.

It has been so much the fashion to attach the name of hysteria to every unwonted affection in females, that it is now oftentimes very indiscriminately given. I grant that a very strong affinity exists between these two diseases, and this has before been pointed out. Some of the cases of extraordinary convulsions which are now called hysteria, were known to our predecessors by the name of chorea, and as such are described, as in the instances mentioned in the "Edinburgh Medical Commentaries," where we find three extraordinary cases of a compound of chorea and epilepsy; the paroxysms came on periodically and suddenly, beginning with hideous shrieks, succeeded by jumping, writhing, and a variety of symptoms, which first occurred after hooping-cough;

in these days the cases so often alluded to, in the first volume of the "Edinburgh Medical and Surgical Journal," would be called hysteria, or we should hear of them as hysterical conversions, as Dr. Ferriar has called the natural result of the mistaken treatment of a disease.

The language made use of by Sydenham has, doubtless, led the way to the belief that every extraordinary convulsion is to be classed under the name of hysteria, and the unsatisfactory definition he has given of chorea, would limit the latter disease to a convulsion of certain of the muscles of the body, and to a halting or unsteadiness of one of the legs, whilst the most frigthful convulsions, resembling epilepsy, he ascribes to hysteria, which he believes constitutes one moiety of chronic distempers.

There is, however, one striking symptom accompanying this disorder, which Sydenham calls the most peculiar and general one, the making great quantities of urine, as clear as rock water, which, he says, "upon diligent inquiry, I find to be the distinguishing sign of those disorders which we call hypochondriac in man, and hysteric in women." The dreadful state of mind, too, which he has so forcibly described, is another very striking symptom; he tells us, "that the nature of the disease is, to be attended with an incurable despair, so that hysteric and hypochondriac subjects cannot bear with patience to be told that there are any hopes at all of their recovery, they easily imagine that they are liable to all the miseries that can befal mankind, and presage the worst evils to themselves." Two or three of the varieties of hysteria that he describes have, by the labours of Sauvages and the other nosologists, been shown to be connected with other diseases. Such has been the authority of names, that many of those who have described epilepsy, chorea, paralysis, and coma, have been satisfied with giving them the name of hysteria, and, like Ferriar, have ascribed everything to it; he has said, "whoever would present us with a good book on the fallacy of symptoms, which is greatly wanted, must be completely master of this unaccountable disease." Certainly Sydenham has given us two unfailing pathognomonic symptoms by which we may at all times decide on the presence of hysteria,—the state of the secretion by the kidneys, and the disorder of the mind, which although it may not be in a very aggravated form until frequent attacks of the disease has occurred, is uniformly despondent, and easily acted upon.

Some of the most extraordinary distortions and contortions of the human body, in which the legs and arms have been twisted about in the most extraordinary manner, and of which language can afford a very incomplete idea, with the most singular agitations of the muscles, I have known suddenly come on, both in young females and in boys, unattended by either of the symptoms which Sydenham has noticed; these have been treated with antispasmodics, with cold bathing, with counter-irritants, and with narcotics, and they have uniformly increased in violence, the paroxysms have been more frequent, and have lasted much longer; when, however, mineral tonics, occasionally combined with some of the most active from the vegetable kingdom, have been persevered in, perfect cures have been effected.

That hysteria very often wears a vast variety of forms all must allow, but it is absolutely and indispensably necessary that you should neither confound chorea nor epilepsy, nor morbid condition of the alimentary canal, nor the presence of worms, nor any of the spasms which arise from impaction of bile in the gall-ducts, of calculi in the kidneys, with hysteria, all of which may give rise to convulsions; for you would necessarily employ some therapeutic agent which might prove most injurious.

Where chorea exists you will find the oxide of zinc, and the sulphate highly serviceable, and where the disease is periodic they may be given at the same time with quinine, and with cinchona, with the utmost benefit. Out of nine cases, five boys and four girls, seven were cured by zinc; where the disease, however, arises from morbid derangements of the brain, where there is a tendency to hydrocephalic action, where any external injury has given rise to the disease, it fails of producing any beneficial influence. In pure hysteria it is hurtful, generally injuring the tone of the stomach, producing nausea, a constant tendency to vomit, and an increase of the malady.

The preparations of zinc have met with advocates in the treatment of intermittent fever; and in various periodic affections zinc seems to approximate to iron in many of its characteristics. It has been employed for hooping-cough, and likewise for phthisis, but it has not gained any very great reputation as a curative agent in these diseases; it has, however, been found to restrain various of the hæmorrhages, and more particularly the sulphate of zinc has been used for hæmoptysis, and for mænorrhagia; in these states it has been usual to give doses of a half to one grain every two hours until a nauseating influence is produced on the stomach, when it is to be discontinued, but again employed if bleeding should recommence. It has been combined with digitalis, with conium, and with opium, and administered in the form of pills, made with conserve of roses, or dissolved in water. It has also been strongly recommended in dysentery.

The external application of the sulphate of zinc has many claims to our notice; the only case of its proving fatal, when thus

used, is related in Pyl's Memoirs. The sulphate of zinc was used as a lotion for an affection of the scalp, a scaly eruption; the patient was a child in good health, of the age of six. A lotion, which was a vinous infusion, had not long been applied, before a burning acute pain came on in the head, death took place in five hours; previous to which, violent vomiting, purging, and severe convulsions were present; an apoplectic condition of the brain was found on examination after death. It appears that the philosopher's wool, or flowers of zinc, is not altogether free from danger; for the apprentice of an apothecary employed in preparing some, filled the laboratory with the smoke. He was seized with tightness in the chest, and with vertigo; the following day he had vomiting and violent cough, together with a sensation of stiffness in the limbs; the third day the vertigo had very much increased, so that he could scarcely stand; he was affected, too, with some degree of salivation, and complained of a coppery taste in his mouth; the bowels were severely griped; it was three weeks before he thoroughly recovered, after having been actively purged, and having gone through a fever.

In some diseases of the skin, the local application of zinc has been found very serviceable, more particularly where internal medicines have been employed, and the constitution is but little affected in any way, where there is a chronic state of debility of the dermoid coverings, but it should be aqueous solutions that are to be employed; for in the greater number of instances in which it is mixed up with fatty matter, and used as an ointment, it does more harm than good; indeed, the greater number of the metallic salts are much less useful when the application is made in the form of ointment. The skin, in long-standing cutaneous affections, will seldom improve from greasy substances; and indeed, sometimes, when, on the first appearance of a papular eruption, this sort of remedy has been used, the disease has become aggravated; simple solution of sulphate of zinc, in distilled water, in the dose of a grain to one ounce, will often arrest a local inflammation on the surface, and act as a powerful astringent; nor does it possess any sedative quality. It is a very common and a very useful ingredient in the different applications made to the eye to reduce the slighter inflammations to which that organ is often liable.

Its action upon mucous membranes generally is of great importance; it restrains too copious a secretion from them; allays any irritation that may be present; and has a very remarkable influence upon these tissues when they are in a state either of acute or of chronic inflammation; hence its employment with so much success in gonorrhœa and in leucorrhœa, in the form of injection, and on which I shall hereafter have occasion to dilate. In particular stages of these diseases it is the most valuable remedy we possess, and can, with certain precautions, be prescribed with the utmost certainty.

BISMUTH.

This metal does not afford us any very great assistance in the cure of disease, and therefore I shall not dwell much upon its history or upon its properties. It is right that you should know that it is the tin-glass of the first alchemists, but that it has had a great variety of names, according to the different views of each person who examined it. Geber called it magnesia; Glauber, demogorgon; Van Helmont, nymph; besides which, mineralogists have described it as gray tin, gray lead, white antimony, silver-coloured marcasite, grey pyrites.

Pure bismuth is a brittle metal of a white colour, verging towards yellow; its structure is generally crystalline; there are only three ores that have been well distinguished from each other: the sulphuret and the oxide. Bismuth is very little altered in the cold by the action of the atmospheric air; it becomes tarnished, however, and a slight dust of a yellowish-grey colour is formed upon its surface; it burns with great quickness, and then absorbs any oxygen with which it may be in contact.

The trisnitrate of bismuth is admitted into the Pharmacopœia, and is the old magisterium bismuthi, and is the pearl-white of the shops, from its assuming, when well prepared, a lamellated and brilliant form, which bears a resemblance to mother-of-pearl, or the silvery scales of fish; it is obtained by dissolving bismuth in nitric acid, and pouring water over the crystals; the trisnitrate is thrown down, whilst some oxide of bismuth remains in solution. An ounce of bismuth is thus directed to be acted upon, according to your formula, by a fluid ounce and a half of nitric acid, and three pints of distilled water. In order to prove that it has no carbonate, nor any oxide of lead, it should produce no effervescence when dissolved in nitric acid, nor should anything be thrown down by diluted sulphuric acid.

This metallic salt is poisonous. It has been stated by Orfila, that the bakers of this country formerly made their bread white and heavy by the admixture of the trisnitrate, and that Camerarius of Tubingen detected it in wine.

In the "Bulletin des Sciences Medicales," is the case of a man who, for pyrosis, took this medicine with supertartrate of potash, in mistake for chalk and magnesia. Most violent symptoms came on: purging, cramps, coldness of the limbs, intermittent pulse, inflammation of the throat, suppression of urine, which continued till within a day of his death, which took place on the ninth

day after the poison had been swallowed. During the whole of the time his sufferings were most acute; salivation was remarked on the fifth day, and delirium on the sixth. The symptoms of enteritis on the last days were the most striking. In the early attack the man refused to take anything but almond emulsion, to which Dr. Kerner added some lemonade and laudanum; leeches and bleeding were eventually tried.

The older writers of the dispensary seem to have been afraid of the use of bismuth externally. Quincy, speaking of the two preparations, the magistery of bismuth and the flowers, says,—"These are very white, and used as an excellent fucus, mixed with pomatum or rose-water; but they must not be too busy with it who try it upon their complexion, for it may do mischief many ways."

It was in Germany that the practice of administering bismuth for those painful affections of the stomach, to which females appear to be most particularly liable, and which seem to arise from a spasmodic contraction, which is often dependent upon accumulation of flatus, but which sometimes is the result of indulgence in spirituous liquors. This spasm comes on very suddenly; it is particularly distressing, and is attended with a pain which the patient describes "as drawing her almost double;" this has been called pure gastrodynia. Its exciting cause, as well as flatus, may be the excessive coldness of the weather, those who are thus afflicted, unfortunately too often have recourse to stimulants which afford a momentary relief.

Bismuth given in such cases oftentimes acts much better as an antispasmodic and sedative than anything with which I am acquainted, and it leaves behind a decidedly tonic effect; so that if it be persevered in for a due length of time, and gentle bitters, or rhubarb and ipecacuanha, in small doses, alternately given, a perfect recovery sometimes takes place, even when nausea, sickness, and vomiting have occurred, just about the period when the stomach unloads itself, and hence stricture of the pyloric orifice has been suspected.

I have at this moment a patient under my care who, four years since, was consigned by some medical men to speedy death for stricture of the pylorus, who has been perfectly restored to a healthy state of stomach by this remedy; and though she is now suffering from a malady, which obliges her to take powerful medicines, has all the digestive and nutritive functions in perfect order; this I attribute entirely to the trisnitrate of bismuth given in doses of three grains, twice in the day, with a mixture of rhubarb, magnesia, and peppermint-water, twice in the course of each week.

I do not think that it possesses this power when the disorder simply depends upon the incapability of the stomach to perform the first functions of digestion, but upon some muscular derangement, exhibited by painful contractions of the stomach.

The trisnitrate of bismuth was formerly very much employed under the name of pearl powder, by the ladies who had arrived at that age when, with the wish to charm, much of the power, from the fascination of beauty alone, is, by the envious hand of time prevented; hence a white paint was delicately attached to the skin, but unfortunately it had the inconvenience of being very easily converted into a gray, a brown, a blue, or even a black colour, upon exposure to the action of some of the gases; and some curious stories have been recorded by some of the wits of the former days, of changes that have taken place in a beautiful white face, even from eating boiled vegetables; and the sulphuretted and carbonated hydrogen gas evolved from a hard-boiled egg, according to Fourcroy, will produce this effect. In these days our gas-lights, admitted into a room, would immediately tell a tale, though the effect might be ascribed to the lights burning blue. Besides, however, these inconveniences, females should be aware that it injures the skin; it irritates the delicate texture; it hardens, it thickens, and, what is worse than all, it blackens it, by constant use; so much so, that the oxide of this very metal forms an ingredient in most of those dyes which are employed to render the hair black, which it does more certainly, though more slowly, than does the nitrate of silver, which has been thus used.

STANNUM.—TIN.

As a remedy, tin is principally used to expel worms, and in the shape of filings to get rid of the entozoa which infest the alimentary canal; and though it has been employed as a tonic in the cure of dyspepsia, in hysteria, in hypochondriasis, and is highly prized in a great number of diseases in France, it has but little to recommend it to our notice, excepting as an anthelmintic. It is supposed to act rather as a mechanical agent, and dislodges the tœnia from the mucus, in which it is embedded, rather by its particles irritating the worm, than from any other power which it may possess; and it has occasionally been given in the dose of one or two drachms, mixed up with any thick viscid mucilage, for a few days successively, and shortly afterwards some brisk active cathartic has succeeded in expelling some of those irritating vermin which occasionally give rise to symptoms of chorea, of hysteria, nay, even of tetanus, and probably this remedy has been ranked amongst tonic bodies, from its apparent influence in curing these diseases.

Poterius has given his name to a preparation of tin, which is scarcely known to us in this country, which he believed to be antihectic; it however obtained no reputation.

At one period medical men were afraid to administer any salt, of tin from an idea that arsenic was generally contained in it; and the celebrated chemist, Margraff, affirmed, that he had found a very alarming proportion of arsenic in it. Schultz and Bayer, however, went through a most elaborate inquiry, which dissipated all apprehension. I need not point out to you of what deep importance to us it is to have ascertained this fact accurately, as so much depends in our domestic economy upon the purity of this substance.

The hydrochlorate of tin is the only salt that appears to have much deleterious influence on the human economy; and Orfila relates one case in his "Toxicology," which he learnt from a friend. In this it seems that diarrhœa in some, colic in others, occurred in a family in which the cook, mistaking this salt for common salt, had used it as such in preparing the dinner. There are many curious facts relating to this metal, which the alchemists called Jupiter, and its salts Jovial; but the most important one is, that Ray directed the attention of philosophers to it, when he was struck with the increase of its weight during calcination; that Boyle endeavoured to ascertain the cause of it, and that Lavoisier finally established the important doctrine, that the oxygen of the air enters into combination with metals, and thus led the way to some of the explanations of the marvellous phenomena which chemistry now so easily and so clearly illustrates to us.

The classical history of tin is peculiarly interesting, more particularly as it is connected with the earliest commerce of this country. The antiquarians have proved to us, that Phœnicia must have carried on an intercourse with this island in the earliest days of which mankind has any record. The mineralogist shows that neither in Africa or Asia, except in the East Indies, mines of tin have ever existed, and our happy island was doubtless designated Insalæ Cassiterides, from which cassiteros, or tin, was obtained. The manner in which stream tin, the only ore of that metal, formerly wrought in Cornwall, is described by Pliny, leaves but little doubt that it was obtained from thence. Tin works are carried on there, and this is more used than that of India, although that which is purest comes from Borneo and Malacca.

In the French language there are some interesting memoirs on this metal, to which I must refer you for further information; these are by Baumé, by Macquer, Pelletier, Rouelle, Bayen, and Challard; nor have the Germans been less industrious. I am sorry to say I cannot find you even a very brief catalogue of names of English chemists, who have devoted their attention to the metals in the same complete and useful form.

CONTRIBUTIONS TO PHYSIOLOGY.

LIFE, ITS PHYSICAL PHENOMENA AND LAWS.

By J. JOHNSTON KELSO, *M.D., Lisburn.*

It was remarked by the celebrated Lord Clarendon, "that there is no art, or science, too difficult for industry to attain. * * It is that only which conducts us through any noble pursuit to a noble end. What we obtain without it is by chance, what we obtain with it is by virtue." Founded as I conceive this principle to be in truth, its fulfilment becomes only a matter of time, united to a cautious spirit of induction from facts cognisable to our senses; and if the discoveries of physiologists in the science of life have not been commensurate with their labours, the fact is evidently attributable to misdirected efforts to the attainment of a knowledge of the nature of a mere shadow, instead of true practical information; or, to borrow the language of Dr. Prout, "of what the vital principle *is*, rather than what it *does*."—(*On the Application of Chemistry to Physiology*, &c.) But the more modern philosophers, seeing this practical error of their predecessors, in the same pursuits, have instituted a new order of things; and the physical phenomena of life being more within the scope of human inquiry, are now obtaining that due share of investigation, as regards details, which their importance demands, and which was formerly but too lavishly bestowed in crude conjectures on the nature of the vital essence.

Life, the essence of which has been defined to be an antiseptic principle (*Stahl*); a principle of self-preservation from destruction (*John Hunter, Professor Burns*); a principle analogous to electricity (*Abernethy*, among others); a chemical laboratory, in which there is carried on a multitude of chemical actions for a definitive purpose (*Berzelius*); the principles of sensibility and contractility (*Bichat*); the property of certain corporeal combinations, existing for a limited time, and under a determinate form, and in drawing incessantly into their composition portions of extraneous matter, whose elements they appropriate as parts of their proper structure (*Cuvier*), a motion of temporary formation, in which elements remain united, which would separate did life cease, and in which elements separate without the action of caloric (*Beclard*); may rather, I am inclined to think, be supposed essentially to result from a normal and reciprocal action of the organic functions, and the chief of the animal functions, the brain; of the circulation of pure oxygenated blood, and of the nervous action; of the function of nutrition and assimilation, and of the chemical changes throughout the body, and of that action.

Without, however, subscribing altogether

to the correctness of the assertion of Mr. Hunter, "that of all things on the face of the earth definitions are the most cursed," I nevertheless do hold that, if taken for more than they are actually calculated to convey, these become, to say the least, highly detrimental to the advancement not only of physiology, but of all the sciences. Thus the definitions of life, some of which have just been quoted, which ostensibly embrace within their meaning only its essential nature, whether material or immaterial, to the utter exclusion of its physical phenomena and ascertained laws, have, instead of forwarding existing knowledge in this highly interesting department of physiological science, only tended rather to retard it, and are now justly exploded as baseless theories, which, for aught we can positively say, as physical inquirers, may or may not be true. For this principle, like that of gravitation, of attraction, of caloric, &c., whose existence is only known from its physical phenomena, can hardly, in the nature of things, be included in any definition, however studied or refined, and hence it must, therefore, remain, like those other important principles, by which all matter is more or less influenced, as an ultimate fact in nature, of which we, in all likelihood, shall never know much that is positive or tangible.

On the other hand, those other definitions of life which, leaving out of account the *essentiality* of this principle, are solely based upon its physical phenomena, are almost equally unsatisfactory, inasmuch as, in these, reference is only made to some few or more of those more prominent and essential phenomena, or laws of vitality, which, instead of comprehending, as they should, the whole chain, only includes, as it were, just as many links of it. For, in truth, as Dr. Alison observes, "the word life, as commonly used, does not denote an individual fact, nor a simple idea, and cannot, therefore, be defined."—(*Outlines of Physiology.*) "While the word life," says Dr. Elliotson, "should be regarded like the word attraction, or repulsion, as merely the expression of a fact, being in this point of view only definable as any other expression."—(*Human Physiology.*)

The phenomena of life, which are as much apparent in the least imaginable part of animal matter which we can separate as in the whole (*Hunter*), are more or less complex, not only in the different classes of animals, up to those highest in the scale of organisation, as man, but also in the latter, at the different phases of his structural development. Thus the life of the ovum which, previously to its being impressed with the stimulus of vivification, bears, in some respects, a close resemblance to a vegetable seed, differs as essentially, *in degree*, from the life of the fœtus in the different stages of its corporeal evolution, as the life of the latter does from the same being subsequently to the period of its taking on an independent existence. This, it is evident, is a legitimate sequence of the different states of the organisation at the different periods of our existence; the superaddition of every new organ, or structure, in the ascending ladder of animal matter to comparative *perfectibility*, giving rise, as it must do, at the same time, to corresponding new vital phenomena, or particular kinds of action; for, in all organised bodies, and during the whole course of their life, the latter are in an exact relation to the state of the former. And it was remarked by the illustrious Beclard, "that organisation and life are in such strict connection, that they may be considered each as a necessary condition of the other, the one always supposing the other."—(*Elements d'Anatomie Generale.*)

It is to the genius of Mr. Hunter that we are indebted for the idea, that life is as simple in man as in the most simple animal, and is reducible to one simple property in every animal; its phenomena being, in his opinion, modifications of this *property*, simply as the result of differences in the organised apparatus, through which it manifests its defects. (*Works by Palmer.*) In favour of this view which, although difficult of direct proof, is nevertheless highly probable, reference has been made by a recent authority to the various powers of common matter. Thus, according to him, the different kinds of attraction has, and, in my opinion, very properly, been considered as modifications of a higher principle, and magnetism, common electricity, and galvanism, have, with equal probability, been supposed to proceed from the same source, or, at least, are essentially identical. The same, there is good reason for believing, is the case in regard to the powers of life. This idea, however, of the unity of the vital principle is a complex idea, but its physical phenomena can no more be considered as effects of different and distinct principles, than these can, unless in an abstract sense, be separated from each other.

And here I would observe, that *action* may be correctly considered as the essential condition of all those phenomena, the aggregate of which constitute what is called *life*. Vital action is modified according to the form and composition of the organic parts; and whenever action is changed, it is the result of some appreciable physical change, or alteration, of the organisation of those parts through which it manifests its effects; modification of action, as a general rule, always arising from a modification of composition of the part. It is this action which effects the absorption of the nutritious elements, which are to be appropriated to the growth and maintenance of the organs and physical structures of the body, pro-

duces the circulation of the blood, and its exposure to the influence of the atmospheric air, through the medium of the beautiful mechanism of the respiratory apparatus, the circulation of the various secreted fluids to their proper destinations, &c.; in a word, which maintains that unintermitting motion which is found to exist in most of the solids, and, through these, in the fluids of the body during life. The phenomena of innervation even do not appear to be produced to its entire exclusion, for there is good reason for believing, with the late M. Beclard, that these essentially result from some kind of molecular action, or motion, in the nervous substance, which produces sensation, as well as those other effects referable to nervous action. If future investigation may establish this, which is at present only problematical, and were I permitted to hazard a conjecture where everything is intricate and obscure, I would decidedly say, that life is the principle of action, or contractility; the modifications of action, from differences of the organic parts, producing the various phenomena which are designated by the term *vital*.

The laws regulating these phenomena may be classed under the following heads:—

1. *Vital contractions*, by which not only the visible movements of living animals, but also those internal and generally involuntary motions in their organisation, are mainly effected. These contractions, or motions, primarily commence with the successive evolution of the several organs and tissues, and terminate only in the death of the animal.

2. *Vital attractions*, by which the nutritious elements are, so to speak, selected from the general mass of the ingesta, &c., to become assimilated with the blood, and afterwards deposited from the fluid, in the perpetual rounds of the circulation, in all the organs and parts, so as to effect their growth and maintain their physical structure.

3. *Vital repulsion*, by which those particles of animal matter, which have fulfilled their especial purposes in the economy, are dislodged from their temporary location, to be carried away in the torrent of the circulation, and expelled the system. It is, I apprehend, this power, influencing masses of organised matter, which proves the only proper antagonism of vital contractility.

4. *Nervous influence*, by which not only "the physical changes in living animals are placed in connection with mental phenomena, and subjected to the control of mental acts" (*Dr. Alison*), but also, especially in those animals in which the nervous system is most developed, so influence those changes in the blood, as well as in the living solids of their bodies, as to subject all, or almost all of them to its extraordinary powers. And here, it is to be observed, I cannot but concur with Beclard, who entirely opposes the limitation of innervation (as Dr. Alison here does, with many others), to mental operations exclusively, for it indisputably holds in subjection to it, directly or indirectly, all the phenomena of life. This influence of the nervous system is the more marked the farther the individual is removed from the fœtal state, and the more developed and perfect that system is in him.

Lisburn, Feb. 14, 1838.

(*To be continued.*)

LARYNGISMUS STRIDULUS.

To the Editor of THE LANCET.

SIR:—If you will give insertion to the following remarks, on the Crowing Inspiration of Children, in your valuable Journal, you will oblige yours,

W. H. HODDING, M.R.C.S., &c.

67, Gloucester-place, Portman-square,
February 27, 1838.

The crowing inspiration of children is a most interesting affection. Simple in its origin, if not arrested in its progress it becomes a complicated and often an unmanageable disease; though it has lately received much professional notice, and attracted the attention of some of our highest authorities, yet, strange to say, there is still a difference of opinion whether this peculiar malady is really a *disease* or a *symptom*, and the crowing inspiration the result of paralysis or spasm.

It has been called by different writers "chronic cough," "croupy convulsions," or the "crowing disease;" is especially an affection of childhood, and is sometimes so insidious in its approach as to excite scarcely any attention till it has assumed a formidable character.

Perhaps the mother or nurse is first struck by the child suddenly awaking in a state of alarm and agitation, stiff, and struggling for breath, and, after repeated efforts, recovering with difficulty, and with a long peculiar inspiration, resembling the early crowing of a young cock, which generally occurs after the first sleep. This symptom, in its slightest form, may be overlooked, and, perhaps, slight squinting may be the first indication of something wrong. To this may succeed contractions of the hands, so that the thumb is fixed in the palm, and the toes are firmly bent towards the soles of the feet, and as the disease advances, strangury, tenesmus, confirmed strabismus, general convulsions, and death.

The croupy sound, from which the disease derives its name, arises from functional derangement in the nerves supplying the glottis; but the cause of this is the point on which so much discrepancy exists.

Dr. Clarke has ascribed it to organic mischief in the brain itself and given it a de-

cidedly centric origin, and treated it accordingly by calomel, bleeding, &c., pronouncing it a highly dangerous disease.

Dr. H. Ley, who, at least, deserves the merit of having laboured hard on the subject, considers it produced by an enlarged state of the cervical glands pressing on the par vagum and paralysing it.

That Dr. Clarke's view of it is wrong, I think may be fairly inferred from his want of success in his treatment. If it be but a symptom of irritation, his mode of managing the disorder would unquestionably increase rather than diminish it; and I think it is plain that he mistook for a cause what is really only an effect, and by trying to subdue the disease, added to it.

That Dr. Ley's view of it is wrong, will, I think, be evident from the following reasons:—That the cervical and thoracic glands are frequently enlarged without causing crowing inspiration, and that crowing often occurs without such enlargement.

I do not believe that swelling of these glands could produce sufficient pressure on the par vagum and recurrent to paralyse it, and, if it could, why should it not have the same effect on the stomach and other organs supplied by it, as well as the larynx.

The glands of the neck enlarged in porrigo, or other diseases of the scalp, or behind the ears, are least of all capable of this imagined pressure on the eighth pair of nerves.

But suppose that compression did take place, it would not account for spasms of the fingers and toes, and general convulsions. The attacks of crowing, too, are *intermittent;* did they depend on pressure on the par vagum they would be permanent; who ever heard of paralysis being cured four or fives times a day? Dr. Johnson, of Dublin, mentions a case of this crowing in a child three days old, continuing for three months, disappearing without any apparent cause, and returning at five months, accompanying every stage of dentition, and ultimately cured by change of air; could this depend on pressure of the cervical glands?

There is a highly instructive case of pressure of the par vagum from intoxication, recorded by Mr. Sampson, of Salisbury, where the glottis was so nearly closed that the patient could not inspire sufficient air to carry on the purposes of circulation, and was dying from undecarbonised blood poisoning the brain; he was saved by tracheotomy. Such would be the case here if the par vagum were paralysed by the pressure of the cervical glands. Lastly; because the disease is so quickly and immediately relieved by freely lancing the gums and attending to the state of the stomach and bowels.

For the last four or five years I have been particularly interested in this disease, and have narrowly watched many cases, and can confidently affirm, that it is referable to one of three causes; viz., teething, irritation in the stomach, and constipation in the bowels. I shall proceed to illustrate this by a few short, but valuable cases, and leave my readers to judge for themselves.

In November, 1834, a child of feeble constitution, and born of a delicate mother, was the subject of this crowing, which had been observed by the nurse for some days, who thought nothing of it, until a squinting of one eye alarmed the mother, who requested me to visit him. He was asleep when I arrived, but, while talking in the nursery, he awoke struggling, and stiff, crowing many times before he recovered his breath, and lay panting and overcome by the exertion for some minutes, and when the paroxysm was over the thumb was still spasmodically fixed in the palm. As it was evident, from the examination of the gums, that the teeth were one great source of irritation here, they were freely lanced, and as he was still at the breast, no change was thought necessary in the diet; but the bowels were daily attended to; and though there was frequent repetition of the crowings, and contractions of the fingers, and, upon one occasion, severe strangury; and though this state lasted during eight months, through the subsequent stages of dentition, no other treatment than occasionally lancing the gums once, twice, and sometimes three times a day, was resorted to, and the child ultimately did well.

I could mention many cases of simple crowing, immediately relieved by lancing the gums, but these cases being early noticed were very tractable.

Another case was lately under my care where strabismus and crowing accompanied each other, and both were immediately relieved by lancing the gums; the child usually slept well after the operation, and awoke naturally, and looking as straight as before the squinting occurred. This last symptom occasionally returns without crowing, and is the signal for the lancet, which invariably cures it.

The next case is doubly interesting, as having occurred in the child of a medical man, who, at three months old, was attacked with crowing. As there was no indication of teeth, the gums were lanced only as a precautionary measure, and the stomach and bowels freely cleared; but still this crowing continued, and spasms of the hands and feet succeeded, with strabismus of both eyes. As the child was strong and plump, it was kept without food for twelve hours, when all the symptoms had disappeared. Supposing the mother to be in fault, the patient was weaned, and fed through a bottle with a small portion of farinaceous food, five times in twenty-four hoors; and from the hour of its weaning had no return of the disease, in any form, till two months afterwards, when the gums began to swell, and

the teeth were evidently irritating them; though the crowing is sometimes as violent as at first, and occasional strabismus, this little patient is well and thriving, under the occasional use of the gum-lancet, and attention to the same diet it commenced from its weaning. Is not this a beautiful instance of the crowing disease, resulting from irritation of the stomach, and cured by removing its cause; and, subsequently, from irritation in the gums, and cured by the lancet. Can it be mistaken? Mr. North mentions an interesting case of this affection, arising from constipated bowels, which was relieved by brisk purgatives, and never returned.

That there may be other causes of this complaint I do not mean to deny. Dr. Marsh, of Dublin, relates a case of a child recovering from it, having a relapse from living in a newly painted house, cured by removing, and subject to it again on returning; and two other children, being primarily attacked by the same cause.

After all, what do these cases prove? Simply, that this crowing inspiration is only a symptom of irritation; that it is an example in practice of what *was* ridiculed in theory, but is now forcing itself irresistibly upon the profession, of the correctness of Dr. Hall's views of the reflex function of the nervous system. An impression is made on some distant nerve, transmitted to the medulla oblongata, and reflected again to some other organ, it may be the eye, the larynx, the hands or feet, the bladder, &c., giving rise to the symptoms previously enumerated.

What then should be our treatment? Let us remove the sources of disturbance, restore the balance of the system, nourish and nurse rather than depress the strength; we then shall have fewer cases of convulsion, and not have to look for the centric origin of a disease which is clearly of another character.

RESULTS OF

TAPPING THE HEAD

IN

NINETEEN CASES OF HYDROCEPHALUS.

By J. T. Conquest, *M.D., F.L.S., &c.*

Sir:—Nearly *ten* years having elapsed since I was first induced to attempt the cure of chronic hydrocephalus, by withdrawing the fluid from the ventricles, the time seems to have arrived when the profession has a claim on me for some account of the results of these operations; and, indeed, this has become necessary in consequence of the numerous applications for information on the subject by practitioners, not only in Britain, but in many distant parts of the world. Still it is a matter involving such important considerations, that until experience has thrown much more light upon it, I do not feel justified in advancing anything beyond the mere statement of facts, such as the present position of my inquiries warrant, leaving to a future day a more methodical and full investigation of the origin, nature, and progress of this formidable disease, with its appropriate medical and surgical treatment.

The operation consists in passing a small and delicately constructed trocar into one of the lateral ventricles, and drawing off so much of the fluid as the powers of the constitution will admit of. The most eligible spot at which the trocar can be introduced, is in the course of the coronal suture, about midway between the crista-galli process of the ethmoid bone, and the anterior fontanelle, so that the danger of wounding the corpus striatum is avoided, on the one hand, and the longitudinal sinus, on the other. The instrument usually penetrates about two inches, and in most cases the serum has been colourless, but occasionally tinged with blood. In one instance (and that was in the last child operated on at *St. Bartholomew's*, only a few weeks since), a large and alarming quantity of fluid blood escaped, most likely from a branch of the meningeal artery. Sometimes, on withdrawing the trocar, the water will not flow until a probe has been passed along the canula to remove portions of cerebrum which block it up. After taking away all the fluid that can be removed consistently with safety, the head, which should always be steadily compressed by an assistant during the operation, may be strapped with adhesive plaster, that it may retain its diminished size, and that the fearful consequences of suddenly removing long-continued pressure from the brain may be averted.

I have now tapped in *nineteen* cases, and of these *ten* were living when last heard of. Several of the children, before the operation, were reduced to the most deplorable condition, having frequent convulsions, with loss of sight, emaciation, &c., but the diminution or disappearance of these symptoms has been very remarkable. In some cases the results have been triumphantly successful; in others, from the reluctance of the parents to have the operation repeated, only temporary relief has been afforded; but none of the children died either during or immediately after the operation; and those which in the subsequent list are reported as dead, survived weeks or months after the fluid was withdrawn.

All the operations were performed in the presence of many medical men, and most of them before large bodies of students at *St. Bartholomew's Hospital*, and their progress has been watched by gentlemen who have felt a deep interest in their termination, and although exclusive dependance has been

placed on the withdrawment of the fluid, without the auxiliary assistance of any pharmaceutical or other remedial means, yet I consider much of the success is attributable to the kind and able superintendance of medical friends.

Having long entertained a conviction that this deplorable disease ought not to be left without something being done for its relief and cure, and not discouraged by the want of success that had followed similar attempts, and considering "anceps remedium melius quam nullum;" it was in the autumn of 1828 that I performed the *first* operation, on Catherine Seager, aged twenty months, whose head had been gradually enlarging during the previous half-year. Not more than two ounces of serum flowed, but on a probe being passed into the ventricle (by Mr. Harvey, of Islington), at the close of the day, a considerable quantity of fluid escaped stillicidium, so that during the night it was calculated that the saturated bandages and napkins could not contain less than two pints. Only one paroxysm of convulsions followed the operation, and some symptoms of meningeal irritation which supervened were speedily subdued by leeches and cold evaporating lotions. Two years and a half subsequently I had the high gratification, in company with some friends, to see this child, when the parents left England for America; and it was not only in perfect health of body, without the slightest evidence of its having been the subject of so formidable a disease, but in full possession of its intellectual powers.

The *second* case was that of William Honey, aged eight months. The enlargement of the head had been perceptible about six weeks, and on the 20th of November, 1829, I tapped him at *St. Bartholomew's Hospital*, and withdrew twelve ounces of colourless serum from the right ventricle. On the 2nd of December twelve ounces more were withdrawn, and on the 16th an additional ten ounces and a half, making the total quantity thirty-four ounces and a half. This child was progressing most satisfactorily, when it became the subject of hooping-cough, to which intractable disease it fell a victim some months after the last operation.

The *third* operation was performed on William Wilmer, a boy now (March 1838) under a course of education in the Orphan Working School, City-road, nearly *eight years* having elapsed since twenty-four ounces of water were taken away by twice tapping him. The history of this interesting case appeared in THE LANCET of September 15, 1832, by Dr. Caldwell, whose patient he was. That the account may be authenticated and impartial, the following statement is an extract from that communication: — "William Wilmer, aged four months, came under my care in the month of July, 1830. His head was of an enormous size, and had been so from his birth; the forehead was large and prominent, the eyes heavy and somewhat convulsed, frequent hiccup, vomiting, &c. Several gentlemen had seen the case, and they all gave it up as hopeless. In the beginning of August Dr. Conquest performed the operation upon this child, and immediately the fluid issued forth in a stream, at first clear, and afterwards a little tinged with blood. During the remainder of the day the child continued rather weakly, but was more lively than he had ever previously been, and for some time afterwards the intensity of all the former symptoms greatly diminished. When a month, however, had nearly elapsed, it was considered requisite to repeat the operation, and on the 3rd of September Dr. Conquest again extracted a clear liquid to the amount of twelve ounces more. The child sleeps well, eats heartily, is very lively, and is in the full enjoyment of all its mental faculties.

Signed, "H. S. CALDWELL, M.D.

"Sept. 6th, 1832."

Amongst other things mentioned in the paper from which this extract is taken, is the curious fact that the head, which was enormously large at the time of the operation, remained stationary, although the size and strength of the body had gradually increased in proportion to the age of the boy, and now that nearly *eight years* have elapsed, the head, although still disproportionately large, remains at about the same dimensions.

The *fourth* case, that of Elizabeth Forster, is referred to with more than ordinary satisfaction, not only because it is the one from which the largest quantity of water was extracted (no less than *fifty-five* ounces), but more particularly because I had lost sight of the child for years, and thought it was dead, until, in September last, I received the following most gratifying communication which I transcribe entire, as it will convey all necessary information of the case:—

"Dear Sir:—Being lately on a visit in Buckinghamshire, I was enabled, through the kindness of Mr. Cowley, of Winslow, to see the child, Elizabeth Forster, residing at Little Harwood, on whom you performed the operation for hydrocephalus about *five* years since. Her countenance and general appearance are healthy; her appetite good, and her rest at night undisturbed. She has been attending a school in the village, where her progress has been equal to that of the other children; she answered questions which I addressed to her on this and other subjects with a shrewdness for which her governess says she is remarkable. The greatest circumference of the head measures 22 inches; the ossification is complete with the exception of the posterior fontanelle, and two other openings of the same size two inches apart on either side of the medial

line, in the course of the coronal suture. Her mother showed a lively sense of gratitude for the benefit which she had experienced under the treatment to which you had subjected her. Yours, &c.

"Francis Cook, M.D."

It would be useless at present to detail the particulars of the other fifteen cases, as all that is important will be found in the summary given at the end of this communication, and from which it appears that of the 19 children operated upon, 10 were living when last heard of, and 9 are dead; but it is only fair to say that as most of these children were amongst the lower classes of society, who are continually changing their residences, several have been lost sight of, and may now, very probably, be dead, although when last seen, some time subsequently to their having been operated upon, they were living.

Of course these operations have been attended with different degrees of success. Unquestionably some are cases of perfect recovery; but, in every instance, there has been a very marked diminution of suffering, and prolongation of life, and in no one case has a fatal termination been accelerated.

Dr. B. G. Babington has analysed the fluid with great care, and states its specific gravity to be 1004. It does not coagulate by heat, acids, and alcohol, and consequently does not contain albumen. Tincture of galls produces no immediate precipitate, but after standing some hours a few brown flocculi subside, proving that it contains a very little gelatine. On evaporation 1000 grains yield 10 grains of solid matter, chiefly chloride of soda, proved by precipitation with nitrate of silver. The liquid therefore contains in 100 parts—

Water	99.
Gelatine	0.1
Chloride of soda	0.845
Other salts and loss ..	055
	100.000

In no instance has clearly marked congenital disease been permanently benefitted, and those cases have done best in which effusion manifestly resulted from inflammatory action, and in which cerebral excitement followed the operation.

The number of cases tapped, with the quantity withdrawn, will be seen in the tabular summary which concludes this brief notice of the subject.

No.	NAMES.	Number of times Operated on.	Quantity withdrawn.	Living.	Dead.
			Ounces.		
1	Catherine Seagar	1	32	1	—
2	William Honey	3	34½	—	1
3	William Wilmer.....	2	24	1	—
4	John Hall	5	48½	—	1
5	Alfred Parman	4	45	—	1
6	Mary Rayon	3	26	1	—
7	Charles Discomb	2	20	—	1
8	John Ward.....	1	8	—	1
9	John Claudit.....	2	22	—	1
10	Charles Clarke	2	17	—	1
11	Elizabeth Forster	5	55	1	—
12	Jemima Evans	1	7½	—	1
13	Jane Brocken.....	1	13	1	—
14	Eleanor Maloney	1	9	1	—
15	Frances Chiddy.....	4	33	—	1
16	Thomas Norman	1	6	1	—
17	Anne Arminio	3	31½	1	—
18	James Thompson	2	14	1	—
19	John Pratt	1	9	1	—
19		44	455	10	9

I feel no ordinary pleasure in thus simply recording the progress of my investigation of this momentous and interesting subject, and shall be most happy to receive from my professional brethren any suggestions that may assist me in attempting to diminish this one source of human suffering and death.

Finsbury square, London,
March 1st, 1838.

CONGENITAL DISEASE OF THE HEART.

To the Editor of THE LANCET.

SIR:—If you think the following case sufficiently instructive, or curious, to merit a place in your valuable periodical, it is quite at your service. I am, Sir, your most obedient servant,

CHAS. W. STEEL, M.R.C.S., &c.

Lewisham, March 5, 1838.

On Dec. 20th, 1837, Mrs. C—— requested me to visit her son, a boy aged 14 years, whom I have with much interest watched during the last three years, with a view to determine, by examination, whether the malformation of heart, under which he evidently laboured, was or was not a patulous state of the foramen ovale.

I found him suffering from dyspnœa, increased by the horizontal position; cough; slight expectoration of a white frothy mucus; pulse small, weak, and irregular; chest dull on percussion, on either side, over its whole extent; respiratory murmur nearly inaudible. He had become worse several days, cyanosis affecting the lips, palpebræ, tip of the nose and ears, and, more faintly, the fingers. He complained of excessive coldness, which he could not remove, though wrapped in blankets before a large fire. Purgatives and expectorants were given with some benefit.

Jan. 2. He now complained of pain in the right arm, which was swelled, œdematous, and exceedingly tender on pressure. The swelling, in a few hours, extended upwards over the shoulder, and right upper half of the chest; the left arm then became affected, the swelling commencing as in the right, and spreading upwards, over the head, neck, and thorax.

11. The blueness had now greatly increased in intensity; the network of superficial veins was beautifully apparent, spreading over the whole of the above-mentioned portions of the body; a deep purple in colour; hard and corded to the touch. Some of these veins were pricked to relieve the tension; the blood that flowed was like viscid treacle, as black as ink, and a dark serum escaped from the cellular tissue.

20. His mind became occasionally confused (delirious would be too strong a term), at other times he was torpid, requiring to be aroused before questioned.

23. The circulation had now ceased at the wrist; the fingers and hands had mortified; a black sanies was distilling from under the nails, from the corners of the eyes, and from the lips.

26. He died this morning, without being convulsed, appearing to suffer much.

29. *Autopsy.*—The hands and the lower parts of the forearms mortified; eyes, lips, tip of the nose quite black; and the rest of the upper half of the body of a more or less deep shade of colour, and œdematous. The lower extremities neither œdematous or discoloured. The pleura and pericardium both contained fluid, the former to the amount of several pints. The lungs exceedingly small, but healthy. The heart very large; the right ventricle dilated and hypertrophied, and more capacious than the left. There was a large opening, an inch in extent, in the upper part of the interventricular septum, by which a free communication was afforded between the ventricles. The pulmonary artery, which springs from the ventricle just above this opening, was exceedingly small (not larger than a quill), while the aorta was much larger than usual. The heart contained polypi, and the veins were filled with coagula. No traces of inflammation were found in any of the thoracic viscera.

His mother stated that he had been from birth of a bluish colour, and short-breathed. Had always complained of cold, creeping to the fire even in summer, and with difficulty removed from it; that he was never fond of the pursuits of those of his own age; but though of an indolent disposition, was not affected with drowsiness

A curious circumstance was observed in the above case, viz., that whilst the whole of the upper half of the body was affected with cyanosis, œdema, &c. the lower half was in a perfectly healthy state, presenting, indeed, in comparison, a shrunken appearance and pallid hue.

Can any of your readers account for this phenomenon? The only probable cause I can assign is this, that the fluid contained in the pleura, by pressing upon the superior cava, impeded the return of venous blood from the upper extremities, whilst the lower extremities were subject to no such impediment to the return of the blood, by reason of the termination of the inferior cava in the auricle immediately on passing the diaphragm, protecting it from any such influence; yet this explanation is far from being satisfactory, for we see cases of hydrothorax every day, but never, as far as I am aware, have such effects manifested themselves in the upper portion of the body only.

FATAL USE OF OBSTETRIC INSTRUMENTS.

To the Editor of THE LANCET.

SIR:—I beg to draw your attention to the verdict just transpired at the York Assizes, convicting a Mr. Matthew Pilling, Surgeon, of Sheffield, of manslaughter, upon the charge of causing the death of a woman by using instruments to facilitate the birth of a child. Before relating the particulars I

trust that, as the champion of the rights and privileges of the profession, and, consequently, the benefactor of the community at large, you will not allow the circumstances to pass unnoticed; the injurious consequences which are likely to result from this verdict are incalculable; many deaths will, in all probability, ensue, for the united faculty will, after such an unprecedented judgment, passed by a jury of Englishmen, be apprehensive of resorting to extreme measures, in future, to rescue their patients from death; and the old adage, "in extremos morbos, extrema remedia," will become a dead letter.

It is stated, in the evidence adduced upon the trial, that employment of the instruments was unnecessary. Will it be believed that this evidence, affecting as it did the future reputation and happiness of an individual, instead of being borne out by professional ability had no other claim to scientific or practical truth than the idle gossip of some female attendants, who (as is well known by medical men upon these occasions) are particularly fond of twaddling, and of busying themselves about those matters of which they are *particularly* ignorant.

The medical men who made a post-mortem examination of the body gave it as their opinion, that the instruments had been unnecessarily and unskilfully applied. Now, I do not wish to question the professional acumen of these gentlemen, but I do say that their evidence was not sufficient to condemn a man upon so serious a charge, for, with reference to the necessity of using force, it would be utterly impossible to give a correct opinion, with any certainty, unless they had seen the patient previous to its application. They, however, did not see her till after death. Adverting to the charge of unskilfulness, this matter appears still less satisfactory. The child may have been large, and in its passage may have caused lacerations, or the forceps may have done so from their unavoidable application.

The question, in fact, resolves itself into this,—Was the evidence brought forward at the trial sufficiently convincing to warrant the jury in returning such a verdict? From the statements already made I think it is clearly proved that it was not.

The flaw consists in the imperfect evidence, derived from examination of the mother, after death, by the medical men. According to the reasoning by induction they ought to have had an opportunity of judging whether the application of the forceps *was* necessary during the mother's lifetime, before they came to the abrupt and illogical conclusion that it was *not*. Admitting this, the charge of want of skill in the use of the instruments cannot be substantiated, inasmuch as unavoidable and unforeseen causes might have operated at the time, and in this particular case may have led to the results seen by the medical men upon inspecting the body after death. I have the honour to be, Sir, your obedient servant,

A Country Practitioner.

Leeds, March 10, 1838.

DISTORTIONS OF THE FEET.

CASE OF

TALIPES VARUS VERUS,

AFFECTING BOTH LIMBS.

By W. J. Little, *M.D., London.*

Remote Cause.—Severe derangement of the supply of motor and nutrient nervous energy to the lower extremities, taking place anterior to birth.

Proximate Cause.—Contraction of the adductor, and so-called * extensors of the foot.

Cure by division of both Achilles' tendons.

April 5, 1837. Henry Reynolds, aged 16, a stout youth, presents himself for relief of a severe lameness and deformity of both feet, with which his mother says he was born.

Present Condition of the Patient.—The first circumstance which strikes the observer is the imperfect development of the whole organisation of the lower extremities, which are disproportionately short, compared with the length of the trunk of the body, and with that of the upper extremities; the muscles of the pelvis and thighs are, although well cased in adipose tissue, much below the usual standard, while those of the leg are still less developed; indeed, there is a total absence of the calves of the legs from atrophy of the gastrocnemii. The shortness of each limb depends less upon deficiency of the femur than of the tibia and fibula; the shafts of the latter can also be distinctly felt to be more slender than natural. The feet are also stunted in their growth; both heels are held up two inches from the ground by the shortness of the gastrocnemii, and the toes are drawn inward, and the inner margins of the feet upwards,

* These muscles, situated on the posterior part of the leg, are analogous muscles to the flexors of the arm, as regards position, diseases, and even function. Some of them flex the toes. They have been called extensors of the anklejoint, by anatomists and surgeons, because they straighten the foot; but by some eminent physiologists they are denominated flexors. That they are so, is particularly evident in the quadrumana, for instance, were the hind feet are used for taking hold with as readily as the fore. Pathologically we see that they correspond with the flexors of the arm; as in *club-hand*, it is the flexors and pronators which are affected, and not the extensors, &c.; and in club-foot the gastrocnemii and adductor tibialis posticus, &c.

by the shortness of the tibialis posticus, so that the great toes are in contact with one another, and the patient touches the ground by that part only of the plantar surfaces of the feet, called the ball of the little toe. This part, which is an oval of an inch and a half in length, is covered by a painful corn, through having had to bear all the weight of the body. Of the remainder of the soles of the feet, the ball of the great toe, the heel and under part of the instep, no part has ever come into contact with the earth. There is very little mobility of the anklejoints, particularly of the left, scarcely sufficient to enable the surgeon to render the Achilles' tendon tense; the ligamentous tissues are very rigid, and those of the inside of the feet (lig. deltoidea), as the form of the feet indicates, are particularly contracted; the legs are both œdematous, and the skin purplish, from languor of the circulation in them; their temperature, also, is unusually low. These conditions co-exist with some displacement of the tarsal bones; the round head and superior trochlea of the astragalus can be seen, and still more clearly felt projecting, the former from being partially denuded of the os naviculare, the latter in consequence of the fixed state of so-called extension of the joint. The os cuboides is also more prominent along the side of the foot than natural; the left foot, as I have elsewhere * shown to be commonly the case, is in all respects the worst,—in the extent of elevation of the heel—in the twisting inwards of the foot—the rigidity of the joint, and deformity of the tarsal bones. All the strength which can be exerted with the hands in the endeavour to improve the form of these feet, *has not the least effect upon it*, but merely renders the Achilles' tendons a little more tense.

The patient's mode of progression, when he has boots on, which, having heels and broad soles, are accommodated to his lameness, is extremely laborious and difficult; his arms maintain the equilibrium of his body, as without useful gastrocnemii, and with so extremely small a point of support upon the earth as is afforded by the ball of the little toes, he would be in constant danger of falling were it not from the agility the constant practice from infancy has afforded him; his arms are almost constantly in motion, until his body has found the perpendicular; like the dancer upon the tight or slack rope, he raises the one foot over the other alternately, giving the limb, whilst it is moving, a peculiar semicircular swing, first outwards, then forwards, and, lastly, inwards. Without his boots, unaided by the arm of his mother, or by two sticks, he cannot make a single step. The peculiar swing I have described, arises from the endeavour to avoid touching the toe of one foot against those of its fellow, and to bring as large a part of the sole against the ground as possible; for if such a patient were to place his feet perpendicularly on the ground, the point of the foot would turn gradually still more inwards, and the ankle outwards, the tendency of which would be to cause him to tread upon the dorsum pedis, in which case, although the deformity is increased, progression is less laborious to the patient, as we see in those worst of cases, called in the Devon and Somersetshire dialects respectively, pumple and bumble-footed patients. He has worn, it is stated by his mother, various mechanical contrivances, the object of which was to overcome the distortion of the foot; but, beyond drawing the toes somewhat outwards, his feet are at present in the state in which they were when he was born.

* See its probable explanation, also "Symbola ad Talipedem varum cognoscendum," auctore W. J. Little, M.D., Berolini, 1837, p. 12.

Sketch of the outside of Reynolds's right foot.

View of the inside of Reynolds's right foot.

Indications of Cure.—As it cannot be for a moment doubted, after reading the description of this case, that the deformity was produced during uterine existence, by some violent derangement of the innervation of the lower extremities, from which resulted the deficient nutrition and derangement of motor nervous energy, we cannot expect that any means which may be used for the restoration of the form and function of the osseous part of these feet can, at the same time, procure a cure of the lesion of the central organs of the nervous system, which has so intensely affected their capillary and muscular systems, as that occurred at a period anterior to birth, and has, consequently, existed during a period of sixteen of the most important years of human development, those of infancy and adolescence. I will not enter here upon the discussion whether the proximate cause of the deformity in this lad's case arose from partial paralysis of the voluntary power of all the muscles of the leg, whereby the involuntary or organic contractility of the gastrocnemii, and other so-called extensors, obtained the ascendancy over their antagonists; or whether it was direct permanent contraction—tonic spasm of the surales and their allies, induced by the derangement existing in the medulla spinalis, the source of the involuntary motor power. The disease, in this instance, may have either cause for its origin, and its decision will not affect the means to be resorted to for its relief, *i.e.*, to remove the chief impediment to his treading fully upon the sole, namely, the shortened state of the gastrocnemii by the section of the tendo Achillis and the displacement of the bones, and the contraction of the other muscles on the back of the leg, and of the ligaments of the joint, through the consequent deformed position in which the feet had been held by the muscles, by the careful application of mechanical power. In many cases the surgical operation constitutes the major part of what has to be accomplished for a cure, and the mechanical is of minor importance; in others, particularly those aggravated by walking on the distorted limb, the success will depend as much, and sometimes even more, upon the mechanical part of the treatment, than upon the chirurgical; but in all the cases I am about to relate in this communication, the cure was rendered possible by resorting to the division of certain tendons, but was absolutely impossible by mechanical treatment alone.

In this lad, Reynold's case, had division of tendons been resorted to in his early years (that is, had the method been known beyond one or two Universities of Germany, where it was afterwards abandoned, owing to failures through the imperfect principles which then guided the operator) the surgical operation would have sufficed with very little attention to mechanical treatment, but, at the present time, the section of the tendo Achillis, which I purpose performing, must be followed by considerable attention in the wearing of an extension apparatus.

Ordered to remain in bed, and take—*Calomel with jalap*, one scruple, every other day, with the view of procuring the disappearance of the œdema and thus restoring the parts to a state fitter to undergo any operation.

April 11, 1837. I divided both the Achilles' tendons. The knife used is a very narrow, slightly curved, sharp-pointed bistoury, the blade one line in width at the widest part, and an inch and a half long, ground to a slightly concave cutting edge, in half only of its length, the remaining half (that connected with the handle) being left blunt. The operation I perform as follows,—the patient being seated in a chair, one assistant supports the knee firmly, whilst another, grasping and drawing downwards the patient's heel with his left hand, and pressing upwards the toes and front of the foot with his right, renders the tendon to be divided as tense as possible. After feeling with my left thumb and forefinger the outline of the tendo Achillis (enveloped in this patient in much adipose tissue, owing to which no relief of the tendon was visible externally), I pass the small bistoury through the skin, one or two fingers breadth, above the malleolus internus, with one of its sides turned towards the tendon and immediately above it (the patient sitting), the other directed towards the deeper muscles and the tibial vessels and nerves; as soon as I know that the point of the knife has been passed beyond the external edge of the tendon, and has nearly reached the skin of the opposite side, I turn the knife so as to bring its cutting edge to press against the tendon, which is divided generally at one stroke, in the act of withdrawing the knife from the limb. The complete division of the tendon is known by the sensation of the immediate cessation of the tense resistance, and by feeling, before the knife is wholly withdrawn, that nothing remains undivided except the flaccid integuments. (The operation does not occupy a quarter of a minute.) After the withdrawal of the knife, there remains a single puncture in the skin of less than a line in length, from which seldom oozes more than a single drop of blood; such was the case in both legs in the present instance. A few strips of adhesive plaster, and a roller, were applied, and each leg and foot secured to a pasteboard splint, adapted to their deformed shape, to prevent motion of the joint, as it is a wise principle of the Stromeyerian method to make no attempt to draw down the heel, or improve the form of the foot (which would be prematurely interfering with the effusion of lymph between the ends of the tendons, and with the closure of the external punctures), until the latter

heals, which it uniformly does by first intention.

Second day after the operation. Both punctures perfectly healed; has never felt the slightest uneasiness in the divided parts. Takes his usual diet.

Third day. Stromeyer's foot-boards applied to each limb; scarcely any extension and consequent separation of the ends of the divided tendons attempted to-day, lest the first wearing of the apparatus should produce pain; it is, however, to be persevered in daily, and gradually increased.

Seventh day. Has had some pain, he says, from the apparatus, but has slept well every night. Hobbles about the room with the foot-boards on, assisting himself with two sticks; the heels have somewhat descended.

Fourteenth day. The heel of the right foot touches the foot-board at a right angle. The left is not so far advanced. On the dorsum of the right-foot, just behind the toes, there has been a vesication from the pressure of a strap having retarded the return of blood from the front of the foot; cotton wadding has been applied to the parts, and it is again covered with epidermis. He has had two or three restless nights. Complains chiefly of the upward pressure of the foot-boards against the corns of the sides of the feet upon which he formerly trod.

Third week. The heel of the left foot touches the foot-board at a right angle with the leg; he walks about a good deal.

Fourth week. Both feet are bent at the anklejoint more than a right angle; the entire sole of each foot, therefore, touches the ground when he is allowed to stand without the apparatus, although the concavity on the internal aspect of the arch of the foot is still greater than natural.

Fifth week. Has, at present, Stromeyer's modified Scarpa shoes * on both feet, in which he now walks about without the aid of sticks, and seems delighted to feel the ground with the heels and the ball of the great toe.

Sixth week. Has acquired considerable freedom of locomotion; it is at least firm and regular, although the muscles of the leg (being so little developed that there is no calf), having little power of contraction, and the anklejoints being tender from the extension which their ligaments have necessarily undergone, in order to have admitted the trochlea of the astragalus for the first time since he was born into the tibio-fibular hollow, do not allow him to use his feet and legs more than as mere passive organs of support, as a very old man, whose calves being wasted, cannot rise upon his toes.

Seventh week. Improves daily; from his difficulty in walking formerly, compelling him to bend his body forwards, at the same time stretching out his arms, I have considerable trouble to get him to carry himself upright, even now that he has two firm feet to stand upon; the muscles of the trunk and thigh, from so many years adaptation to a particular combination of actions, which was necessary to enable him, as I have already described, to support himself in the erect posture, appear by habit, therefore, to constrain him to a peculiarly awkward gait; he is, nevertheless, so altered that his mother thinks nobody would recognise him. By my direction he now carries a seven pounds' weight in each hand, through which he walks better than when empty handed, as the muscles of the upper part of the trunk thus employed to a definite end, cause his body to be erect. He has, in fact, to learn the use of his legs as a child, without having the normal state of the muscles which exists in infancy.

Sept. 1, 1837. At the present time, he informs me that he can walk about all day with comfort, ten or twelve miles without difficulty, in the capacity of errand-boy. It could not be known that he had formerly had two congenital club-feet; the only remains of them are a slight turning in of the toes when he is fatigued, and, consequently, careless about his gait, and an evident want of the natural freedom of action in the anklejoints. The mass of muscle has evidently increased. He did not wear the Scarpa shoes after the tenth week, and has worn a common pair of lace-up boots ever since, stiffened on the inner side of the ankle with an additional piece of leather.

126, Fenchurch-street,
March 9, 1838.

* Vide LANCET, April 15, 1837, p. 122.

FURTHER OBSERVATIONS ON

DR. HALL'S STATEMENT

REGARDING THE

MOTOR NERVES OF ARTICULATA.

To the Editor of THE LANCET.

SIR:—As some of the circumstances referred to by Mr. Newport, in your Number of the 3rd of March, relative to the question of priority lately agitated by Dr. Marshall Hall, are likely to be better known to me than to the latter gentleman, and as their comprehension may assist your readers in judging of the merits of this discussion, I beg leave once more to trespass on your pages with a few explanatory remarks. The question of *priority* in the assignment of the motor function to the superior nervous columns of articulated animals, is obviously not one of *science*, demanding intricate discussion, or admitting of ingenious sophistry, but is merely a question of *historical fact*, requiring authentic and accurate statements of dates and circumstances; and for either party to divert the attention to matters totally irrelevant, or to obscure the

truth by ambiguous insinuations, is only to expose the weakness of his cause. It is somewhat satisfactory to find that, by the nature of the facts which he has been the means of eliciting, especially from his co-pupils, Mr. Newport has been induced to treat this question with a little more of narrative and less of intemperate language; but it is still to be regretted that his statements are not more authenticated and consistent, and somewhat more relevant to what is understood by every one to be the subject in question. He has now, however, favoured us with a detailed account of the "circumstances, which, if made known, would, he trusts, sufficiently prove unto whom this discovery really does belong," (LANCET, Feb. 10, p. 715); and from this document it chiefly appears that he had been *studying* insect structure "*without reference to, or a knowledge of, the labours of other anatomists*," before he first came to London, in Jan. 1832; and that on his arrival I had *frequently conversed* with this modest, though uninstructed youth, on the subject of his studies, before he became my pupil in the autumn of that year; that I encouraged him to compose a paper on the subject of insect anatomy, which was completed and printed in that year, and that in this first juvenile essay he expresses himself "inclined to consider the transverse nerves of insects as respiratory, from their principal branches being *always distributed among the tracheæ*;" that I made mention of this juvenile composition in my lectures, when he was my pupil, in 1832, and that I showed its figures along with those of Lyonet and Straus; that Professor Müller has complimented him for certain facts detailed in a *subsequent* paper of 1834, which that physiologist *then* believed to be original; and, finally, that Sir Charles Bell is highly pleased with his doings, especially in the affair of the "lobster," of 1833, on the mode of dissecting which animal, it seems he has been recently lecturing to his surgical class at Edinburgh.

I will not attempt to invalidate this close chain of reasoning, nor to diminish the force of these "proofs" on the minds to which they are addressed, by any comments on the simple and candid style in which they are put forth, nor on the success with which he has here combated against his propensity to insinuation, but shall add some other circumstances which appear not less intimately connected with the question at issue. His injudicious remarks concerning our first intimacy, however, compel me to observe, that the chief qualities which attached me, and I believe some others of his friends to him, were the adverse circumstances and the humble occupation in which he assured me he had spent his youth, the neatness of his pencil drawings of the nerves and other parts of insects, and his laudable desire to obtain a medical education. These considerations urged me, by every public and private means in my power, to make him acquainted with the labours of my predecessors, and with my own views of the nervous system of insects, and other parts of the economy of animals, and induced me to apply to my medical colleagues, at the suggestion of Dr. Hall, to pass him free through their respective classes; so that I cannot altogether agree with him, that the *difficulties* and *misfortunes* on which he now delights to harp, have proved any impediments to, if they have not, as in most similar cases, accelerated, his advancement.

In the number of your Journal abovementioned (p. 813), Mr. Newport refers your readers, with what discretion I leave them to discover, to certain private autograph notes, said to be composed in 1831; and, although such documents can be of no authority for the purpose for which he has adduced them, they afford some intrinsic evidence of the character of their author. In these notes the different parts of the brain of insects are compared to the *cerebrum* and *cerebellum* of *vertebrata*, deductions are founded on these comparisons, and the *motor* and *sensitive* origins of the nerves of these animals are fully discussed! But would the reader believe, on perusing these notes, that in the year *following* their pretended date, in a paper addressed to the *Royal Society*, and published in their "Transactions," in 1832, the brain of insects is described as "a *nodulated mass in the head*, which is *supposed* to represent the brain;" and although that memoir is professedly on the nervous system in this class, not a sentence is to be found in it which indicates that the author had, *even then*, the smallest conception of a distinction existing between *motor* and *sensitive* nerves in the economy of animals.

Notwithstanding this published testimony of his ignorance of these topics in 1832, and the picturesque description which he published two years afterwards, of the difficulties he had to surmount, in his first attempts in 1833, to discover the motor columns, the existence of which he says had been first suggested to him by Sir Charles Bell, in the lobster (where they are obvious, however, to the naked eye of the most superficial observer, on first opening that animal, especially in their passage over the ganglia), let your readers observe the following statement, first announced by him in THE LANCET of the 3rd instant:—"I have thus shown that my opinions respecting the existence of *motor* and *sensitive* columns, in invertebrata, *originated with myself*, long before my acquaintance with Dr. Grant (beginning of 1832), and Sir Charles Bell." It is by insulting, in this manner, the comprehension or the conscience of his readers, that this gentleman will "cast a doubt over

the fairness of his writings and general conduct" (LANCET, March 3, p. 812), much more certainly and indelibly than could ever be desired by any of his offended friends, in defending themselves from his attacks.

Since my last communication to your Journal, another co-pupil with Mr. Newport, in my class of comparative anatomy, in 1832, Dr. Baly, the translator of Müller's valuable work on Physiology, has kindly favoured me with an inspection of his notes taken in that session, which confirm those of Mr. Storrar, formerly published (LANCET, Feb. 17, p. 748), as to my having demonstrated in that course the functions of the *motor* and *sensitive* columns of articulata. It appears from these notes, that after describing the views of Audouin and Edwards respecting the distribution, the forms, and the changes of the nervous system of crustacea, and especially pointing out in these animals that "besides the nerves *passing into the ganglia* there are other nerves *coming off from the chords* between the ganglia;" after detailing the observations of Treviranus and Müller concerning the nerves of arachnida, and the researches of Lyonet, Herold, and Straus, as to the distribution, the metamorphosis, the development, and the different adult forms of the nervous system of insects, I then discussed the general functions which I considered to belong to each part of this great system in articulata, and pointed out those which I considered to be "*motor nerves*." At this place, it further appears from the notes, that I again adduced Müller's figure of the scorpion, in proof of the common occurrence, in articulated animals, of those motor columns figured by Lyonet (Pl. ix., fig. 1), as forming "broad bands passing *en relief* over the upper surface of the anterior ganglia in the *cossus*." The figure of Müller, representing a third column in the scorpion, supposed by Treviranus to be nervous, which Mr. Newport stated in the "Phil. Trans." to have been first shown him by me in 1833, when he was showing about his lobster, is not only fully described by his co-pupil Dr. Baly, but is actually copied with his pen into his note-book. Dr. Baly concludes his notes on the nervous system of articulata with the following general announcement:—"We have *seen* nerves apparently corresponding to the NERVES OF SENSATION *with ganglia*, and to the NERVES OF MOTION *without ganglia*; also nerves of vegetative life, thought to supply the office of the nervus vagus and sympathetic."

Although my young pupils were not professed short-hand writers, requested to record, *verbatim*, every sentence of my hurried demonstrations; nor could they have anticipated that it might be interesting, at a remote period, to have recorded the precise words of my oral descriptions of complicated structures like these, it is still obvious that the notes of my pupil, Mr. Storrar (cited by Dr. Hall, LANCET, Feb. 17, p. 748), coincide with, and confirm the above extract from those of his co-pupil Dr. Baly. Mr. Storrar says,—"*Between the ganglia* a nerve is seen passing down, which divides into two, and we may consider *those which do not pass through the ganglia* as NERVES OF MOTION." In the figure of Lyonet, then exhibited and described to the class, the transverse nerves are delineated as passing into columns, which *extend over the upper surface of the ganglia*, at both ends of the nervous axis, and as coming always from and over the *upper surface* of the chords, in the intervening parts of the axis. At the anterior part of the body the columns "semblent *se continuer en relief sur les deux ganglions*, et en se retrècissant et se raprochant *sur* le dernier, former la *bride épinière* (Lyonet's name for the *transverse nerves*), qui en derive." (Lyonet, p. 191.) These *broad white nervous bands*, figured by Lyonet (Pl. ix., fig. 1, 2), as passing over the upper surface of the ganglia, and giving off laterally the transverse nerves, and which Dr. Hall has been stigmatised by Mr. Newport, for saying that I first designated as *motor columns*, and first pointed out as general structures of articulata in 1832, were common-place facts, with others, of my predecessors. Straus, for example, says, in speaking of the ganglia of insects, "L'on remarque *souvent a leur face supérieure* un sillon longitudinal qui indique *le trajet de ces cordons*, de manière qu'ils paraissent simplement *traverser les ganglions sans s'y perdre*." (Straus, 1828, p. 373.) Although Mr. Newport confesses that I first "suggested" to him that these columns "pass over the upper surface of the ganglia" ("Phil. Trans." 1834), and also at length admits, that they "contain some voluntary motor fibrils" ("Phil. Trans." 1836, p. 544), he repeatedly (LANCET, February 10, and March 3), exults with an air of triumph, that in 1832, I did not teach these common-place facts respecting the *existence* of superior aganglionic columns, as a discovery or doctrine "of my own," wishing your readers, no doubt, to infer that I should have *then* taught them, as due to his wisdom, who did not know, at that time, the distinction between a motor and a sensitive nerve in the animal frame. Even if it were suggested, in extenuation of Mr. Newport's subsequent conduct, that, at that time, he did not comprehend the views thus recorded by his co-pupils, his present arrogant pretensions preclude that charitable supposition. And now, since this gentleman has compelled me to take up the pen in Dr. Hall's defence, which I never did in my own, I will not conceal the fact,—a fact which your readers will not anticipate, but which they will at once discover by a comparison,—that the plates of the motor

columns, so exultingly published in the "Transactions of the Royal Society," in 1834, as new discoveries in insect anatomy, are *fac similes* of those of Lyonet (1760, pl. ix., fig. 1), representing the columns passing "*en relief*" over the upper surface of the anterior ganglia of the cossus, and which I demonstrated as *motor columns in* 1832.

Although Mr. Newport is now extremely anxious to shift the ground of this discussion from 1832 to 1833, and pertinaciously adheres to his "misrepresentations" in the affair of the lobster, which he appears to have been hawking about amongst his friends for some months before all was prepared for the manœuvre of bringing it to me; I must say that I cannot conceive any other reason for my desiring him, as he says, to leave his preparation, or whatever else he might wish me to examine, till I should be "a little more at leisure," excepting that, as I had already shown him the motor columns in my own dissected specimens of the lobster (not the scorpion) I had no further leisure to examine *his*, or that I was unwilling to be interrupted with such visits whilst making my arrangements for lecture. I am now glad, however, to observe, from his own statement, that he did not leave any materials with me on that occasion. It has been familiar to every one since the time of Lyonet, that the transverse (my *motor*) nerves arise high from the inner margin of the columns, and after descending pass outwards, over their upper surface, and that they anastomose freely with the ganglionic (*sensitive*) nerves, near their separation from the columns, to form (*moto-sensitive*) trunks,—"Le plus souvent, ces réunions ont lieu entre des troncs dont l'un *naît sur un ganglion* et l'autre sur la partie *des cordons* medullaires qui précède." (Strauss, p. 374.) Yet Mr. Newport has announced the "discovery" that these transverse nerves form a *tertium quid*, a respiratory system, in the nervous axis of articulata; and this ingenious invention to compliment his still uninsulted patron, Sir Charles Bell, I have been much censured by himself and his friends for never alluding to in any part of my writings. Your readers, who well know that the complex function of respiration must necessarily involve *sentient* and *voluntary*, *incident* and *reflex* classes of nerves, will be inclined to forgive the omission complained of, by the recent announcement of Mr. Newport, that "every one is aware that respiratory nerves are nerves of *motor* character" (Lancet, March 3, 1838, p. 813), and by the fact that this single median motor filament, to which the important and complicated function of respiration had been entirely consigned by him, has just been shown to Mr. Newport, by one of our students, to be a VENTRAL VEIN, returning blood to the heart.

No person, except Mr. Newport himself, ever figured, or described, or imagined, my motor nerves of articulata to *proceed from ganglia*, or to *form ganglia* in their course, as he has delineated them in the "Phil. Trans." for 1832, in a plate, which he says, with exultation, I exhibited to my class in that year, and which I perceive to be commented on with doubt in the extract which he has given from Dr. Baly's notes. (Lancet, March 3, 1838, p. 813.) This was the only novelty "communicated to me" in all the "examinations and cross-examinations" to which he informs your readers I subjected him in 1832; but this novelty "which he had reason to believe I was then unacquainted with," proved an absurdity, which he subsequently corrected, in conformity with my "*suggestion*," ("Phil. Trans." 1834, p. 402) that there, as in all the other articulata, the motor nerves must pass over the upper surface of the ganglia.

Immediately after having borrowed my views respecting the apparent inversion of the moto-sensitive columns of articulata, another plagiarism with which Mr. Newport has contaminated the pages of the "Royal Society's Transactions" (1836, p. 542), he makes the following assertion:—"It has been stated by Dr. Grant, that a series of ganglia exists on each side of the alimentary canal (of insects), which appears to be independent of the transverse nerves. But I must acknowledge that I have been unable to trace this series," &c. (Lancet, 1834, Vol. II., p. 515.) To this I beg leave simply to reply, that there is no sentence in that reference which either the most designing or the most ignorant could construe into such a meaning.

Leaving now your readers to form their own opinion as to the truth of Dr. Hall's statement relative to the question of priority, and entreating you to forgive this lengthened intrusion, I remain, Sir, with great respect, your most obedient servant,

ROBERT E. GRANT.

10, Seymour-place, North,
March 7, 1838.

OBSERVATIONS ON THE LETTER
ADDRESSED
BY DR. ELLIOTSON
TO THE
SENATE OF THE UNIVERSITY OF LONDON.

To the Editor of THE LANCET.*

SIR:—The readers of THE LANCET need no arguments to convince them, that Examining Boards can never control education, or regulate the division of labour in teaching, so well as the teachers and students

* The publication of this letter, which was received a fortnight ago, has been unavoidably delayed.—ED. L.

themselves. And the Senates of our Universities will probably soon learn, that to fix a standard of acquirement, define the sciences examinations shall embrace, and devise accurate tests of skill and capacity, constitute their proper province.

The present system unfortunately makes it the interest of the professors to limit the number of distinct courses as much as possible, and thus sets them at war with the principle of the division of labour, the great source of progress in the sciences, and improvement in the arts. Not many months ago the professors of the *University of Edinburgh* exhibited themselves indecorously before Lord John Russell, petitioning for the abolition of a valuable course of lectures, to enable that University to underbid a western rival, without lowering their own fees. The rebuke they received on that occasion at the hands of the Home Secretary, has probably not been forgotten.

Dr. Elliotson, I regret to see, has been treading in the steps of the Edinburgh professors, and addressing a similar remonstrance to the Senate of the *University of London*. Two courses of Dr. Elliotson's lectures have been made *imperative* by the *Worshipful Company of Apothecaries*, and the medical student must attend, or at least pay for, three hundred of Dr. E.'s lectures, and fifty of his examinations. To pay the professor of the practice of physic 6*l*. the first winter session is the student's imperative duty; nor can he escape paying 6*l*. the second session, but by entering "perpetual," and paying 9*l*. in the early part of the first session. Besides this he has to enter to the hospital, and pay for clinical instruction by Dr. Elliotson.

A prevalent report that "one member of the Senate of the *University of London* was anxious to prevail" on that body "to enact that an applicant for a degree in medicine" should attend, in his second year, a course of about eighty lectures on the practice of medicine, appears to have called forth Dr. Elliotson's deprecatory address, published in THE LANCET of February 17th. Eighty is little more than the half of one hundred and fifty; and the half of 6*l*. is 3*l*.; Dr. Elliotson sees a connection between these propositions; but it will be perceived that the connection is not necessary or logical. For although only eighty lectures upon the practice of physic be made indispensable, no regulation whatever, for restricting the course to eighty lectures, or for preventing the professor, if he pleases, from extending it to two hundred, appears ever to have been contemplated. The professor of physic, therefore, cannot justly complain, nor need he dread this step, as a discouragement, who is already in the field, and enjoys a high reputation as a teacher.

The case stands thus, if the reports Dr. Elliotson has heard are authentic: in the second year of study attendance on his lectures three days a week, for six months, will be made *imperative*, and the student will be left to judge of the comparative utility of attending one hundred and seventy, or any other greater number. The professor's arguments on this subject will therefore be very properly addressed to his pupils, and no doubt will be listened to with due attention and respect.

"As to morbid anatomy, it cannot be taught with advantage by any one but the teacher of the practice of medicine." The Senate of the *University of London* proposes to place a course of morbid anatomy and general pathology, on an equality with the other courses; attendance on eighty lectures are to be made imperative; and this is one of Dr. E's objections against a separate course upon this subject. The other objections are of the same nature as those formerly brought against the separation of physiology from anatomy. "It is often impossible to describe or explain the symptoms without a reference to the morbid anatomy." Unquestionably it is; and it is equally impossible to describe the functions without a *reference* to the anatomy of the part; but this has not prevented Dr. Elliotson from writing a book on physiology, that does not in the least degree supersede books on anatomy. Morgagni, Baillie, Andral, Meckel, Lobstein, and others, have written distinct treatises on morbid anatomy; and it may be safely asserted that morbid anatomy never made rapid progress until it became a distinct branch of study. The gentlemen who have attended Dr. Carswell's lectures, know well that the course of morbid anatomy is not included in that on medicine, and that it does not necessarily "waste the time of the student."

"I consider that the separation into two professorships (First. General Pathology with Morbid Anatomy; and, secondly, Practice of Physic) would be as absurd as if two professors of chemistry were appointed,—the one to lecture the first year upon caloric, affinity, and other generalities, and the other to lecture the following year upon individual substances." The instance is unfortunate; for natural philosophy, embracing the doctrines of "caloric, affinity, and other generalities," is a distinct class in almost every University where the physical sciences are successfully cultivated. At the *Sorbonne*, in Paris, Dulong and Pouillet lecture on physics; Gay-Lussac, and Thenard, on distinct parts of chemistry, thus "dividing and cutting up" what is here called the chemical course, into distinct sections, to the great advantage of the students, as each professor devotes especial attention to the department committed to his charge,

"I am at a loss to discover the necessity for a professorship of hygiène." This may

readily be admitted; for Dr. Elliotson goes on to state that this important part of medicine is, or should be, included in his own course, and the course of medical jurisprudence. Now we had the good fortune to hear a course of hygiène by Andral, in the *University of Paris*, and must confess that nothing like it occurs in Dr. Elliotson's published lectures, or in the present lectures upon medical jurisprudence, necessarily connected with questions of law. The hygiène of communities, of armies, navies, and other professions; the means of determining and preserving health in all ordinary circumstances, ought, long since, to have been taught in England, and would, no doubt, have occupied the same place here as in other countries, had not the apothecaries' curriculum been drawn up by men of narrow views. Andral's course of hygiène was attended by 1500 to 2000 attentive auditors, in a University where attendance on no particular course is imperative.

"I am aware that medical subjects are split into numerous professorships in some countries, but those who have visited such schools must know how *inconveniently* and *heavily* such *teaching* proceeds." Dr. Elliotson has been misinformed; we can assure him that as much attention, animation, and activity prevail in the lecture-rooms of Berlin and Paris as in his own class. Attendance on the lectures is not compulsory; but the absent are not more numerous; and of those that attend, the proportion that fall asleep is not greater than will be found among the gentlemen hurried on by the torrent of his own eloquent discourses.

Medicine and all the collateral sciences were formerly taught by one professor; and, at a still earlier period, medicine itself was a section of philosophy. As facts have multiplied, successive divisions of the vast field have been made, and will continue to be made in spite of every obstruction. Before many years elapse, a still farther division of Dr. Elliotson's course will probably be required. I remain, Sir, yours, &c.

L. M.

ASSURANCE OFFICE FEES.

To the Editor of THE LANCET.

SIR:—In several numbers of your much read Journal papers have appeared on the subject of the remuneration of medical men by insurance offices for professional certificates, and Mr. Rowe, Surgeon to the Mutual Assurance Company, has argued against the claim of the profession to fees on such occasions.

Allow me respectfully to offer some considerations which may lead to a different conclusion from that of your correspondent. In doing so I only repeat opinions expressed several years ago, though I feel honoured in my present connection with an office, the directors of which, at the suggestion of my friend Dr. Sims, have, with just liberality, determined to pay for medical opinions, whensoever required, contrary to the practice of other offices.

Mr. Rowe says, "To qualify a medical man to give adequate information he must be well acquainted with the habits and persons of the parties insuring, consequently he *must* have enjoyed their confidence, and, *in all probability*, have benefitted by their remuneration, and is it, in return, too much to expect that he should give a gratuitous opinion on a subject so vitally important to their interests?" I reply, *certainly not*, as a matter of courtesy; but as certainly it is too much to demand as a matter of right. Does my friend Mr. Rowe, on this principle, attend his patients gratuitously in 1838, because they have paid for his attendance in 1837? In common with other medical men I have been in the habit of replying to questions from assurance offices for my patients without expecting a fee; but this practice seems to me purely a matter of feeling, which I fully *approve*, and is not adopted because remuneration cannot justly be claimed. Companies have no right to ask how we may act with friends or patients. Again, Mr. Rowe remarks, "The application, if not directly made by our patients, is at their instigation, to secure a benefit to themselves and families; they are the party *seeking* the protection of the insurance company, and, consequently, our certificate is as important to them as to the office." Here lies the gist of the question. The application *is not* directly made by patients, as Mr. Rowe seems to admit, but generally, if not uniformly, by the directors of offices, adding the penalty of their declining the proposal if not obeyed; and this is properly so, for offices are interested in the skill and integrity of the medical referee *at least as much* as the party assuring. Life assurance societies undoubtedly deserve all fair legislative and public support; but it is mere chicanery to avow that they are purely "philanthropic institutions." They are chiefly commercial affairs, "obtaining large and certain profits, from which an enormous bonus is occasionally promised."

The science of life assurance has led to the construction of tables by which the risk of insuring a large number of select lives may be nearly as correctly estimated as the return of a comet is foretold by the astronomer. 1840 is the brilliant year for increasing the fortunes of those in the favoured list of the "Equitable," from the excess of premiums paid by insurers above and beyond the true risk. Is it, then, too much to expect that "Equitable," "Mutual," and "Asylum" Companies should, out of their "large and certain profits," pay professional

gentlemen for opinions confessedly so valuable that without them they can do nothing, or must do business on pure speculation. Important as I allow a medical certificate is to the party assuring it is equally important to the company which calculates on the duration of that individual's life, since without such certificates no contracts can be effected, and without the exercise of medical skill and responsibility the companies must fail to carry on their business.

Where then is "the sordid avarice?" Not in the profession which has long and gratuitously served life assurance institutions, and to which they are indebted equally with parties assuring, but rather in those shareholders and officers of such societies who for a few shillings per cent. per annum refuse to remunerate a liberal profession for valuable services rendered to them. To repel this charge of avarice is my principal motive for writing these remarks, which will, I hope, put the matter in its true light. I am, Sir, yours, &c.,

E. Smith.

March 1st., 1828.

LIFE ASSURANCE MEDICAL CERTIFICATES.

To the Editor of The Lancet.

Sir:—I have perused Mr. Farr's very interesting paper on Life Assurances, contained in your pages of this week, but cannot coincide in that gentleman's opinion, that "Assurance offices ought to pay a fee to the medical referee," and should like to call his attention to my letter in your former number, Feb. the 10th.

I have there briefly stated that I consider we are bound by the bond of fellowship which exists between man and man, and still more by a tie of gratitude to our patients, to bestow so trifling a service gratuitously. A friend of mine applied this week to his regular medical attendant to fill up a certificate from an office, and he was refused until the fee was transmitted. What in all likelihood will be this gentleman's alternative? Most probably he will resort, in future, to a more liberal practitioner, and loss, instead of gain, will accrue to the present practitioner from his refusal. In fact, I deprecate the precedent altogether Most probably my medical compeers are, like myself, in the frequent habit of giving certificates; sickness excuses the attendance of witnesses and jurors on trials, and clerks at public offices; no benefit from a club can be received without one, and I should regret that the penalty of a fee was attached to so small an exercise of friendship; it would frequently fall hard upon individuals, because, in many cases, the advantage derived would not be commensurate with the exaction, and, consequently, supersede their application to us. And still this is attended with far more trouble than filling up a printed letter from an office.

But these are not the most powerful arguments against an established remuneration from assurance offices. I conceive it would be opening a door to the admission of usury and intrigue; for, supposing two persons base enough to preconcert such a scheme of flagrancy, what guarantee would an office have against a fraudulent understanding between a party ostensibly proposing to insure and his medical referee? Any one person might apply to and be rejected by offices without number, and his medical abettor, (upon whose fallacious testimony he would be negatived) would receive a fee from each, and participate with him the wages of this iniquity. I know it will be retorted, how can a representative of an honourable body augur such delinquency in its members. But remember, that there are abuses and blacklegs in every calling, and Mr. Farr himself cites from Magens, the case of an apothecary, in London, who murdered his wife to possess himself of the money assured on her life. This is an example bearing upon the point, though scarcely analogous, for there are gradations in vice as well as in virtue, and many will be likely to connive at an ignominy almost defying discovery and punishment, who would shrink from the hardihood, turpitude, and danger of imbruing their hands in blood. I am, Sir, your obedient servant, &c.

Matthias Rowe.

24, Woburn-place, March 5th, 1828.

DEATH FROM NEGLECT AND STARVATION.

PRESERVATIVE INFLUENCE IN THE BODY AFTER DEATH.

To the Editor of The Lancet.

Sir:—It is fortunate for the honour of this country that few well-authenticated cases of death from starvation are on record. I presume, therefore, that the following statement will not be unacceptable to my professional brethren, if you will permit me to convey it to them through the medium of your valuable and extensively-circulated periodical, The Lancet:—

On Wednesday, the 10th of January last, at about ten in the evening, I was requested by two of our town police to accompany them to the watchhouse, where they informed me they had discovered a man either dead or dying. On my arrival I found a man dead, stiff, and cold. It appeared on inquiry that one of our borough constables had put a poor fellow into the watchhouse on the *previous Monday evening*, the 8th,

whom he had found lying in the street in a state of the utmost destitution and exhaustion; that he had barred the door of the watchhouse, and afterwards told one of the town policemen that he had placed a person there, but owing to some most abominable neglect no one had gone to the guardhouse until the Wednesday night, when the unfortunate creature was discovered. On Friday, the 12th inst., I was desired by the coroner and jury to make an inspection of the body, at which time I carefully noted down the following appearances:—

The face was much shrunk and emaciated; the eyes were open, and presenting a red fiery appearance, indeed, as intense as in a case of acute ophthalmia during life. The skin generally was particularly tough, and scarcely any cellular membrane was to be found on dissection. The tongue, lips, and fauces were dry and rough. When I first saw the body on the Wednesday evening there was a peculiar strong odour exhaling from it; this, however, was scarcely perceptible on the Friday. On opening the cavities of the chest both lungs were shrunk and contracted, especially the left; the pleura of the right lung was slightly inflamed; all the viscera of the abdomen were extremely healthy; the stomach was quite empty, even of gastric juice; the intestines were also empty; indeed, there was not one particle of chyle or fæces throughout the whole canal; the gall-bladder was nearly full of bile, and the surrounding parts were much tinged by it; the blood vessels were extremely collapsed, and nearly empty; the urinary bladder was empty and contracted, and it was evident that no evacuation had passed from it or the intestines during the time that the unfortunate man had been in the watchhouse, where he no doubt languished in agonising misery from the Monday night at ten o'clock, until some time on the Wednesday, as two respectable persons swore to the fact of their hearing repeated groans in the lock-up house towards the morning of that day.

In addition to the post-mortem examination I have thought it right to notice some of the circumstances of the above unfortunate case, as I think they will justify the opinion which I gave at the inquest, namely, that the man died from cold and hunger.

It is worthy of remark that three weeks and two days after death permission was obtained to disinter the body in order to prove the identity of the individual, and satisfy the minds of anxious parents and relatives, on which occasion I attended, and was forcibly struck with the fact that there was not then the slightest appearance of decomposition in the corpse. I have, therefore, no doubt but that the bodies of persons dying under such circumstances will longer resist the effects of external agencies, as I was led to contrast this occurrence with one which I had observed a few days previously, where a young man in the enjoyment of perfect health had been accidentally shot; and in that instance decomposition had advanced so rapidly that six and thirty hours after death no one could have recognised any feature of the face. I remain, Mr. Editor, your obliged and obedient servant,

WM. TOMKINS, M.R.C.S.

Yeovil, Somerset, Feb. 20, 1838.

INTUSSUSCEPTION IN CHILDREN.

To the Editor of THE LANCET.

SIR:—The subject of intussusception having lately been discussed at the two principal medical societies in London, and nothing new having been elicited on these discussions, I take the liberty of suggesting to the profession, through the medium of your valuable periodical, the trial of inflating the bowels by means of a glyster-pipe attached to a common pair of bellows; it has fallen to my lot to witness several of these most distressing cases in children; the nature of the obstruction was foretold during life, and unfortunately verified by post-mortem examination. The last case of the kind which came under my care about two years since, presented all the usual symptoms: intolerable restlessness, the most obstinate sickness, the singularly distressed state of countenance and shrunken features, The usual remedies were had recourse to. viz. warm baths, glysters, anodyne frictions over the abdomen, &c., but without avail; as a forlorn hope I made trial of inflation by the above means, with the most happy result;—the sickness immediately ceased, the child within an hour passed a natural stool, fell into a sleep, and in the morning was almost without ailment. I am, Sir, your constant reader and obedient servant,

SAMUEL MITCHELL, Surgeon.

Kingston-on-Thames,
Feb. 26, 1838.

PUNCTURE OF THE BLADDER.

To the Editor of THE LANCET.

SIR:—On the 16th of December last there appeared a letter of mine in THE LANCET, detailing the history of a case in which I deemed it necessary to tap the urinary bladder. In that communication I stated pretty accurately all the circumstances connected with it, in order to acquaint you, Sir, that even among the quiet vales of Cambria, an occasional application of THE LANCET might prove of incalculable benefit to the sacred cause of suffering humanity. For here, as unfortunately, in many other places, no

positive evidence of professional capabilities, it would seem, is demanded from candidates previously to their assuming the important duties of hospital practice. Happily, however, my poor patient can now smile at her escape from the dangers and perils that recently environed her. As several weeks have elapsed since the insertion of the case, without any attempt having been made to impugn its correctness, I am fully warranted in construing such silence into a tacit admission of the facts. Nor is the inference drawn a rash one, for the gentlemen have been assiduously endeavouring to place the honour on each other's shoulders. In taking leave of the subject, Mr. Editor, permit me to remark that to you, and to you alone, is the profession indebted for the abolition of many deeply-rooted abuses in hospital practice, and long and happily may you live to further the best interests of humanity.—I have the honour to remain your obedient servant,

DAVID OLIVER, Surgeon.

Morriston, near Swansea,
Feb. 23, 1838.

MR. GORE'S LITHOTOMY KNIFE AND STAFF.

To the Editor of THE LANCET.

SIR:—Knowing that accidents of a serious nature had frequently occurred in the operation for lithotomy when performed with the usual instruments, I had, in the year 1833, a straight staff made, with a canal in it, for a small knob, or beak, at the end of the knife to run in, so as to prevent the possibility of the knife slipping out of the groove when once in it, and producing the accidents which you are well aware have too often happened from that unfortunate circumstance. The knife and staff I sent to Sir Astley Cooper, by my late relative, Mr. G. Stone; and I was not a little surprised to hear that Sir Astley condemned *both* of the instruments, and in such harsh and unmeasured terms, that I was certainly chagrined at the result of my application to him; and, yielding to the opinion of a gentleman who is so universally and justly admitted to possess the highest talent, I determined to lay my instruments aside, never to see the daylight again.

Judge, Sir, of my surprise at reading in THE LANCET for Oct. 14, 1837, at page 99, the sentences reported to have been spoken at Glasgow by Sir Astley Cooper, respecting the operation of lithotomy as performed with a staff with a slit in it, and a beaked knife, according to *Dr. Pee's method*.

Since seeing that report in your Journal I have been endeavouring to procure the instruments spoken of by Sir Astley Cooper as Dr. Pee's, and succeeded only a few days ago. I have compared them with mine, and *the principle* appears to be precisely the same, the only material difference being that Dr. Pee's knife has the beak (or small knob) bent on one side, instead of being placed straight forward at the top of the blade, in order to secure the making of a lateral incision; but this I consider as not only unnecessary, but a great disadvantage in Dr. Pee's instrument, as the desired object is most easily gained in mine, by turning the handle of the staff sufficiently round to present the canal laterally, when the knife can be pushed straight along the canal, cutting with the edge, directly forwards, instead of with the side of the knife, as is the case with Dr. Pee's instruments. I shall make no comment upon the facts stated, but now forward to you both instruments for the favour of notice in your pages by the insertion of this letter.—I remain, Sir, your obedient servant,

HENRY JOHN GORE.

Worthing, Sussex,
Feb. 13, 1838.

*** The position of the knob, or "beak," at the point of Mr. Gore's knife, is better than that of Dr. Pee's, but the mode of inserting the "beak" of Dr. Pee's knife into the slit in his staff, by means of a gradual slope in the canal, is preferable to the plan of dipping the knob into the circular hole of Mr. Gore's staff. An expert operator, however, should not need a beaked knife. The instruments shall be returned to Mr. Gore if he desires them.

SMALL-POX HOSPITAL.

To the Editor of THE LANCET.

SIR:—If you will direct your attention to the *Small-pox Hospital* you may render the public a very essential service, equal, if not greater than you have already done, by stirring up the officers of other public institutions to a performance of their duties.

About a twelvemonth since, a patient was sent from the *Small-pox Hospital* into the parish in which I reside, who communicated the disease to two children in a family, proving fatal to one of them; and within the last month another patient has been sent home to a house where there are four children, one of whom has fallen ill with the disease; the other three I have vaccinated, and the young woman tells me that she underwent no process of purification, but went from the convalescent ward, in which were some cases under treatment. Surely there ought to be a ward, detached from the other building, in which the patients should be exposed to some antiseptic process of fumigation. I am, Sir, your obedient servant,

Feb. 19, 1838. HUMANITAS.

THE LANCET.

London, Saturday, March 17th, 1838.

If the Irish hospital surgeons succeed in the project to which we adverted last week, and a certificate of three years' hospital attendance be made an indispensable qualification for office in a medical charity, the precedent will speedily be applied to England. Every English and Scotch, as well as Irish practitioner, who has not paid a three years' fee to a recognised hospital, will be rendered ineligible to office in an infirmary, dispensary, or other medical institution in the empire. The monopolists aim at nothing less. They will perhaps discover that they have defeated their own plans. This daring attack of the Irish hospital staff on the rights of medical practitioners, and on the freedom of teaching, will direct public attention to the general question of qualification, and aid in uprooting many anomalies of the present heterogenous system.

What qualifications entitle a practitioner to hold office in the medical establishments of this country? Are they uniform, judicious, of good tendency? These points are worth examination. But what, in the first place, are the bodies which confer certificates, degrees, licences, diplomas, and other titles that at present pass current for proofs of qualification?

(1.) The Apothecaries' Company, London. (2.) The Royal College of Surgeons, London. (3.) The Royal College of Physicians, London. (4.) The University of London. (5.) The Archbishop of Canterbury. (6.) The University of Oxford. (7.) The University of Cambridge. (8.) The University of Edinburgh. (9.) The University of St. Andrews. (10.) The University of Glasgow. (11.) King's College, Aberdeen. (12.) Marischal College, Aberdeen. (13.) The Royal College of Physicians, Edinburgh. (14.) The Royal College of Surgeons, Edinburgh. (15.) The Faculty of Physicians and Surgeons, Glasgow. (16.) Trinity College, Dublin. (17.) King and Queen's College of Physicians, Ireland. (18.) The Royal College of Surgeons, Ireland. (19.) The Apothecaries' Company, Ireland. Under titles conferred by these incorporations, a certain number of individuals practise every department of medicine.

Three common titles are conferred:—Doctor in Medicine, Surgeon, Apothecary. It is pretended that each title marks a determinate degree of acquirement, and that the individual on whom it is bestowed, invariably possesses sufficient skill to render him rather useful than dangerous in the exercise of his profession. But the sense of the title is changed and confounded at every Board; Surgeon at one place corresponds with Apothecary at another; Physician at a third, corresponds with Surgeon and Apothecary at a fourth, and neither of the three titles has been applied at two places to persons who have undergone the same or a similar examination. The title of Doctor in Medicine is conferred by eleven different bodies. The rank of the examiners, the sciences which the examination embraces, the time the examination is carried on, the strictness of the examination, the proportion of candidates rejected, the fees demanded, the preliminary education, and the certificates required, all differ to the greatest imaginable extent. The title of Surgeon is conferred by four Colleges; the title of Apothecary by two. And here equal or greater discrepancies are observed. The Irish Apothecaries' Company examines in pharmacy, and the licentiate is the continental *pharmacien*, or a chemist who has been examined and licensed. The London Apothecaries' Company examines in the principles and practice of physic, midwifery, physiology, anatomy, materia medica, medical jurisprudence, chemistry, and botany; and licences nearly all of the medical students of the London schools. The RoyalCollege of Surgeons in London, until latterly, examined exclusively on anatomy and surgery; the examination did not continue twenty minutes; the price of a diploma is 22*l*. At one time *six* per cent. of the candidates were rejected; at another

twelve. The examiners required proof from the candidate of preliminary attendance on their own lectures, and certificates of having paid them heavy sums for *walking* hospitals where no clinical lectures were delivered. The College of Surgeons in Edinburgh examines in every department of medical science, includes Latin, mathematics, natural philosophy, and does not exclude pharmacy from the examination. The fee for a diploma is 7*l.* 5*s.* The examinations at the London and Edinburgh Colleges are conducted secretly. The examination of the Dublin College of Surgeons is open to the members. It extends to several subjects not embraced in the curriculum of the London College; and is said to continue for a considerable time, and to be conducted with strictness. But no account of the proportion of candidates rejected has been published. Candidates are now examined in pharmacy. Unill lately, some time, we believe, subsequently to the Parliamentary inquiry into medical education, an apprenticeship fee of 300*l.* or 400*l.* was demanded by the members of the Dublin College of Surgeons, besides 50 guineas to be paid by each licensed apprentice to the College funds. The examination in the University of Glasgow, for degree of the Master of Surgery, differs essentially from the other examinations.

Is it right, or convenient, or for the advantage of the community, that these incongruous bodies should continue? An apothecary is either a licensed druggist or a learned physician; and a surgeon may be a man well versed in medical science, or a mere anatomist and operator, unacquainted with the laws of disease, and ignorant of the general principles of science.

At Oxford, the candidate for the degree of M.D. must previously have graduated in arts, and been examined in Latin, Greek, Christian Theology, and Mathematics; he must have signed the 39 Articles; attended three years; listened to a few lectures; frequented an hospital; have been on the books for nine years, and have undergone an examination. The exercises for the degree of B.M. and M.D. have been, "until within "these few years, little more than the mere "forms of the ancient disputations." The examination is public, and includes anatomy, physiology, pathology, chemistry, and botany, so far as they relate to medicine. The medical instruction at Oxford and Cambridge is utterly inefficient, yet a student need not resort elsewhere to complete his studies. In the University of Edinburgh, the candidate, without any previous mathematical or literary examination, proceeds to take the doctor's degree. Until within a few years, the examination was conducted in a dead language: the strictness of the test cannot be determined, as the number of the final rejections is unknown. (The Board of London Apothecaries has habitually rejected a great proportion of Edinburgh graduates.) The student is examined *viva voce*, or in writing, (1) on anatomy, chemistry, botany, institutes of medicine, and natural history; and (2) on materia medica, pathology, practice of medicine, surgery, midwifery, and medical jurisprudence; he also defends a thesis. It is unnecessary to detail all the varieties of the examination for the degree of Doctor in Medicine; but it must be stated, that up to 1826, this degree was conferred without any examination whatever, by the two Colleges of Aberdeen and the University of St. Andrew. In the 46 years from 1781 to 1826, the Scotch Universities conferred the title of Doctor in Medicine on 4994 persons; and 1893 of these degrees, 37 per cent. (more than a third of the whole number), were sold at St. Andrew's and Aberdeen. Each of the candidates paid 26*l.*, and in the majority of cases the parties never saw the examining professor.—(Appendix to Report of Scotch-University Commissioners.)

In rapidly indicating the singular anomalies in the titles, examinations, and Boards of Examiners, we have not referred to the very different talents and scientific character of the persons to whom the conduct of the examinations is entrusted; nor to the different ways in which the examiners are selected. The curricula would fill a volume,

—some prescribing one year's hospital attendance, others two, others three; one insisting that the hospital shall contain 80, another that it shall contain 100 beds; one set requiring courses of three months; another, courses of six months; the same number of lectures for different subjects, or a different number of lectures for the same subject; and laying down ten or twelve courses of lectures in every order of sequence that is mathematically possible. If anything can add to the chaos of these unfixed, conflicting, discordant ordinances, it is the diversity of legal rights which they confer. No one can practise as a physician in London, or seven miles around, who has not been licensed by the London College of Physicians; while any person may practise as a physician in the country. An uneducated person is a legally qualified surgeon in London; and *any* druggist may compound medicine in England; but no one can practise as an apothecary, or prescribe and charge for medicines in any but surgical cases, without a licence from the London Apothecaries' Company. In Dublin, none but members of the Irish Apothecaries' Company can compound drugs.

The preposterous confusion of Licensing Boards would not claim a moment's attention if it only affected the value of two or twenty post-nominal titles. But as the license to practise any branch of medicine is a license to deal with human life, the matter assumes a serious importance. Security for life is a fundamental clause in the charter of society; and the preservation of life, so far as it can be promoted by public regulation, deserves the attention of the Legislature. The Government of this country has, from the earliest times, recognised the propriety of preventing ignorant people from tampering with the lives of the public, and the necessity of some public proof of capacity being adduced by the medical practitioner. The nineteen Boards have been nearly all founded by legislative enactments, or charters, thus recognising the principle of public interference, although they evince, clearly, in other respects, that the interests of the corporations themselves have always been consulted, in contempt of the majority of their members, and in utter disregard of the influence of their proceedings on the public health.

The sick are not left to determine, by their own judgments whether an individual is qualified or not to treat their diseases. Chartered companies pretend to solve this question for the sick, and even to express different degrees of qualification. As gold, silver, and copper coin is stamped at her MAJESTY'S Mint, for the public convenience, so are there examined, stamped, and authorised physicians, surgeons, and apothecaries. But the physicians, surgeons, and apothecaries are examined at 19 different places; the examiners are irresponsible; they have 19 entirely different tests and standards; and things of different value are stamped with the same title; and that which is called apothecary here, is called physician or surgeon there; those that pass current in one district are called counterfeits in another. In selecting medical men the public mind is supposed to require guidance; the present 19 Examining Boards mislead not only the ignorant but the best-informed persons, who can scarcely be expected to recollect 19 different degrees of qualification, expressed by three titles which can never be applied twice in the same sense. If the degree of Doctor in Medicine were not publicly conferred, people would be left to exercise their own discretion in estimating the qualifications of persons who took up the title; but when authorised bodies profess to confer this title on qualified individuals, part of the public vigilance and precaution is dismissed, confidence being placed in the Boards of Examiners. But foully has that confidence been betrayed. Examining Boards have enforced attendance on their own lectures, and driven the student to hospitals where they guarded the doors, in order to plunge their greedy hands into his pockets; they made the examinations matters of form, and the fees exorbitant; or sold—yes, three out of five of the Scotch Colleges *sold* the de-

gree of Doctor in Medicine — the title— the qualification of a physician in Great Britain and Ireland, for 26*l*. In 46 years those Universities, appointed to guide and protect the public, sold 1893 diplomas to persons whom they never examined, and at this time scarcely less than a third or a fourth of the physicians in practice can have any other claim to adopt the title of Doctor of Medicine than that conferred by a diploma from St. Andrew's or Aberdeen.

If no examining bodies existed, and no titles were bestowed, errors would be committed; but they would neither be so fatal, nor so flagrant, as the errors into which the public are systematically led by 19 Examining Boards. This is exemplified by a fable, for which the reader may, if he please, refer to La Fontaine. One fine day in summer, a Norman bonne was walking with a boy, ten years old, in the *Jardin des-Plantes*. She had just observed that the names of all the animals were written on labels, when they arrived at an enclosure on which the boy read "Zebra." "Ah!" he exclaimed, "that "is not like the streaked zebra in my spell- "ing-book; it is of a dusky brown, and the "very image of an ass." He was right; it was a foreign species of the ass, but an ass in every particular. The label had been misplaced. His guide, however, bade him look at the dark streak across the shoulders, and insisted that the ass was a zebra. The animal brayed, and the boy recognised an ass in the bray; but the preceptress persisting in her infallibility, went on to say:—"Child, be- "lieve me, this is a zebra—read the name— "it is written and placed here by learned "men appointed expressly for the purpose "by the King." Several other errors arose in a similar manner, for on that day the labels had been accidentally as much misplaced as if nineteen Examining Boards had been employed to manage them; but we can only add, that much ingenious argument was used, to show that the same animal, called by three names by naturalists, was three essentially different animals. The moral need not be added, it is our argument.

It is difficult to show all the evils to which nineteen conflicting Boards of irresponsible examiners give rise, or the injurious results of an endless variety of legal qualifications in private practice. But the evil is apparent in the qualification required at public institutions. The care of no public institution, in which the health of a body of men is concerned, can be properly undertaken by a person acquainted with only a part of medical science; if he be only versed in surgery, two-thirds of the severest cases will be misunderstood and ill-treated; if ignorant of surgery, accidents and operations which require surgical knowledge, will not be met with promptitude and skill. Yet a great number of persons in practice have never undergone more than a partial examination. Of 1830 medical officers employed under the Poor-Law Amendment Act, 233 have never been examined;—327 have not been examined in surgery; 323 are surgeons only, and have never been examined in medicine or the collateral sciences. The *Army* and *Navy Boards*, and the *East India Company*, require only surgical diplomas; although, without referring to periods of peace, two-thirds of the deaths in war arise from diseases not included in the category of surgery. These three bodies institute special examinations, which might supply the defect in a merely surgical diploma if interest did not render the examinations, in a great measure, nugatory. Surgeons alone are eligible as medical attendants to gaols; the diseases are, to a great extent, medical in the technical sense. The Irish Medical Charities Bill, while it shuts out mere licentiates of the London Apothecaries' Company from all offices in the infirmaries and dispensaries, professes to render them accessible to members of the College of Surgeons.

Will any one who admits the propriety of a preliminary examination, and of a license to practise, deny that the test to which candidates are submitted should be uniform, and uniformly applied? That it should be complete, and extend to every

branch of medical science? That it should be the same, confer one license to practise, and one title in every part of the empire? That the confusion of irregular, irresponsible Boards should be replaced by one NATIONAL FACULTY OF MEDICINE, the license of which should be the sole preliminary qualification in candidates for private practice, or for offices in public institutions?

In the absence of a National Faculty, the Irish Medical Charities Bill proposes to render offices in the infirmaries and dispensaries accessible to no practitioner who has not diligently attended an hospital three years. This clause has been foisted into the Bill by the Dublin hospital surgeons, with the intention of disqualifying all but their own apprentices. It is not diligent attendance—although this even when compulsory may flatter the vanity of lecturers—but fees which the Dublin hospital surgeons demand; they know that their certificates of diligent attendance are invariably forthcoming when the fees have been paid at the proper time. They desire to confer offices upon their pupils on easy terms; certificates of five years study as their apprentice, of three years attendance at their own hospitals, and of two hours examination by themselves; this will make the competition easy; it will exclude nine-tenths of the Irish practitioners, and all surgeons not belonging to the Dublin College. Established character, honesty, humanity, industry, scientific acquirement, practical skill, are utterly empty things when weighed against the certificates of five years study, and of three years hospital attendance! The humble student who has applied himself diligently to medicine, who is thoroughly versed in his profession, and who has sunk all his means, devoted all his energies to successful investigations, and the veteran practitioner whose talents, private life, and public character, are an honour to mankind, such men are to be thrust from the doors of a dispensary or an infirmary by the graduated milk-merchant of Armagh, and others of his order, who have obtained certificates of three years hospital attendance. Such are to be the encouragements of industry and talent in Ireland.

HOUSE OF COMMONS.

Friday, March 9th, 1838.

IRISH MEDICAL CHARITIES BILL.

THE following conversation having been scarcely noticed in any of the newspapers of Saturday last, or subsequently, we give an account of it in this place for the benefit of the medical profession residing on the other side of the Channel. At a late hour of the night,

Mr. FITZSTEPHEN FRENCH rose to move the order of the day for the second reading of the Irish Medical Charities Bill. He hoped that the House would not object to the motion, but would allow the Bill to advance a stage at that time, and he would then postpone the Bill's going into committee until after the Easter holidays. He knew that strong objections were entertained against some of the provisions of the Bill by several honourable Members, but he could not conceive that they would be placed in a worse position by reading the Bill a second time on that occasion, when every question connected with the measure could be thoroughly discussed at a subsequent period. In a committee, every honourable Member would have the best opportunity of stating his opinions, and of suggesting such alterations in the clauses as he might deem to be requisite. He moved, therefore, that the order of the day for the second reading of the Irish Medical Charities Bill be now read.

Mr. WAKLEY said, that he must strenuously resist any attempt that might be made to advance a Bill of this description a single stage without an ample discussion on some of the extraordinary provisions which it contained. The Bill had created a very strong feeling amongst the members of his profession in the sister country, and he had just received a petition, signed by 136 medical students of Dublin, in which an earnest prayer was urged, that the Bill might not pass into a law in its present form.* Instead of keeping a notice of motion on the paper, and bandying it about from day to day, the notice standing tenth, fifteenth, or twentieth on the list, a distant day should be selected, when it might be placed the first on the paper, and when, from that circumstance, honourable Members who were interested in the question might feel assured that it would be brought

* Since the receipt of this petition, another petition, from 48 highly respectable graduates of medicine, practising in Dublin, against the Bill, has been received by Mr. Wakley, for presentation to the House of Commons. A copy of this document, as well as a copy of the petition of the students, will be found in the present Number of THE LANCET, at pp. 912—913.

on at an early hour, and the subject receive the fullest and most deliberate consideration of the House. He could not believe that the House would ever sanction the Bill as it was then framed, and some of the clauses would receive his most determined opposition. Circumstances, such as he had stated would, he hoped, induce the hon. Member for Roscommon (Mr. French), as it was quite certain that the opposition to the measure could not be successfully resisted on that night, to examine the Order Book, and take a distant day, when the motion for the second reading might stand the first on the paper. It was dangerous to allow a Bill of this kind to advance a single stage without the amplest investigation of its merits and defects.

Mr. RECORDER SHAW said, that he approved of the suggestion which had been offered by the hon. Member for Finsbury, and he hoped that it would be adopted without hesitation. The Bill was regarded with much anxiety in Ireland, and demanded due consideration and scrutiny in the House. He would not say that he objected to the principle of the Bill, but he certainly might state, that he was very much opposed to several of its details. He would certainly support the proposal for the postponement of the motion.

Mr. LUCAS cared not when the second reading took place, so that it was preceded by an ample discussion of the provisions of the measure. If it were the desire of the House he was prepared to go into the discussion now, but he certainly thought that it would be far more convenient to put off the motion to a distant day, when it might be made in the absence of the present disadvantages. Certainly, nothing could induce him to consent that the Bill should silently pass through a stage on that evening. The provisions of a measure of this description could not be too attentively investigated, and he, for one, should perseveringly oppose the advance of the Bill until both its principles and its details had been properly scrutinised. He approved of the suggestion for a postponement of the motion.

Mr. W. S. O'BRIEN concurred in the views of the three preceding speakers. He could not consent that the Bill should advance a stage at that hour of night. Discussion ought to precede every stage of a measure of this nature. He hoped that the proposal for a postponement of the motion to another evening, when it might be made at an early hour, would not be resisted.

Lord MORPETH thought, from what had passed, that it would be better for the Hon. Member for Roscommon to select a distant day, as had been suggested, when hon. Members, who took an interest in the question, might come to the House, assured that the motion would be fully discussed. It was evidently hopeless to attempt to advance the Bill that night.

Mr. WAKLEY could remind the noble lord, the Secretary for Ireland, that the provisions of the 46th clause of the Irish Poor-Law Bill, which had been reserved for consideration to a future day, must, in fact, be discussed with those of the present measure, unless it was intended to abandon altogether that objectionable section of the Irish Poor Bill. In that clause it was provided that the government of the medical charities of Ireland, and of their medical officers, should be placed under the pernicious control of the Poor-Law Commissioners. In the present Bill, it was stipulated that the same identical powers should be exercised by Medical Commissioners. The noble lord would recollect that in passing the Irish Poor-Relief Bill, the 46th clause was reserved for future consideration.

Lord MORPETH said, in reply, that the clause was no longer reserved but abandoned.

Mr. WAKLEY was rejoiced to hear that announcement, and believed that it would afford great satisfaction to his medical brethren in Ireland. In the last session of Parliament he had strongly resisted that clause, but on that occasion without success.

Mr. FRENCH said, that, acting on the suggestions which had been offered, and finding that he had no chance of advancing the Bill that night, he had examined the Order Book, and finding that Wednesday the 14th, and Wednesday the 21st of March, were both occupied, he would put down the order for the second reading of the Bill for Wednesday the 28th of March, when, as it would stand first on the list, it would necessarily precede all others for discussion on that evening.

*** Communications relative to the above measure, ought, in consideration of what has just been reported, to be in possession of members of the House of Commons *before* the 28th instant.

IRISH MEDICAL CHARITIES BILL.

PETITION OF GRADUATES IN MEDICINE, AND SURGEONS, PRACTISING IN DUBLIN, AGAINST CERTAIN CLAUSES.

The following petition, signed by 48 of the most distinguished medical graduates and surgeons in Dublin, directed against the 16th, 17th, and 18th clauses of the above Bill, has been forwarded to Mr. Wakley for presentation to the House of Commons. The names of the petitioners comprehend those of every respectable practitioner of their class in the Irish capital excepting—perhaps, of course

—the members and licentiates of the Dublin College of Surgeons:—

The Right Honourable and Honourable the Knights, Citizens, and Burgesses of the United Kingdom of Great Britain and Ireland, in Parliament assembled.

The Petition of the undersigned Graduates in Medicine of the British and Irish Universities, and Members and Licentiates of the Royal Colleges of Surgeons of London and Edinburgh, practising in Dublin, and its vicinity,—humbly showeth

That Petitioners have learned that there now is before your honourable House a Bill "for the better regulation of Hospitals, Dispensaries, and other Medical Charities, in Ireland," of the principles of which they approve, as those institutions demand reformation; as also of the appointment of Commissioners of Medical Men, as is proposed by the second clause of said Bill; and they pray that your honourable House will introduce a clause that one, at least, of said Commissioners shall be a graduate of the University of Dublin,—one a graduate of the University of Edinburgh,—one a graduate of the University of Glasgow,—one a member of the Royal College of Surgeons in Ireland,—one a fellow of the King and Queen's College of Physicians in Ireland,—one a member of the Royal College of Surgeons in London,—and one a licentiate of the Apothecaries' Hall in Dublin,—which arrangement Petitioners conceive will give satisfaction to the profession in this country, the vast majority of which are graduates of the British and Irish Universities and members of the London and Edinburgh Colleges of Surgeons:

Petitioners highly approve of the appointment of Medical Inspectors, as proposed by the seventh clause of said Bill, and humbly pray your honourable House to introduce a clause that said proposed Inspectors shall not be selected from the members or licentiates of any one particular University, or College of Surgeons, but from amongst the graduates and members, as well of the British Universities and College of Surgeons, as from the Irish University and College of Surgeons:

Petitioners cannot but regret the introduction into the Bill of such a clause as the sixteenth, by which, if passed into a law, the graduates in medicine of the Universities of Edinburgh, Dublin, and Glasgow, and the members and licentiates of the Colleges of Surgeons of London and Edinburgh, will be ineligible to any medical situation in this country, unless they obtain a certificate from the before-mentioned Medical Commissioners, thus making null and void the Royal Charters and the Statutes of the several Universities and the Colleges of Surgeons; Petitioners most respectfully implore your honourable House to expunge the said clause, and introduce one similar to the thirteenth clause of the Bill of last Session, which protected the respectability of the profession and the welfare and interest of the public:

Petitioners most respectfully submit, that if your honourable House allow the seventeenth clause to remain in the said Bill, the entire medical profession in this country must be annihilated, as by it the entire profession must procure certificates from the said Medical Commissioners, before the possessors of any medical degree or diploma shall be eligible to fill offices in any hospital or other medical institution in this country, which your Petitioners consider would be degrading and insulting, not only to themselves, but to the Universities and Colleges of Surgeons from which your Petitioners obtained their degrees and diplomas; and they therefore most earnestly but humbly intreat your honourable House to expunge the said seventeenth clause:

Petitioners respectfully pray your honourable House to expunge from the said Bill the eighteenth clause, as it tends to perpetuate the monopoly of the King and Queen's College of Physicians in Ireland, and of the Royal College of Surgeons in Ireland, instead of preserving the right of the physicians and surgeons who are at present attached to the medical charities in this country:

And your Petitioners will, as in duty bound, ever pray.

George M. M'Cormick, M.D., M.R.C.S.L., and one of the Physicians to the Sick Poor Institution.
James Wilkinson, M.R.C.S.L., Black Rock,
James Mac Keon, M.D., L.R.C.S.E., and one of the Physicians to the Dublin General Dispensary.
Peter Conroy, A.B., M.D., T.C.D., 36, French-st.
Wm. J. Thompson, M.D., M.R.C.S.L., late House-Surgeon to the Belfast Hospital.
M. Jennett, M.R.C.S.L., 54, Marlborough-street.
R. Nash M'Dermott, M.R.C.S.L., 23, Richmond-street, Dublin.
James Duggan, M.D., Richmond-street.
John Browne, M.D., M.R.C.S.E., Dundalk.
Daniel F. Brady, Old Dominick-street.
George A. Cullen, M.R.C.S.L., Suffolk-street.
John Nolan, M.D., 27, Lower Dorset-street.
James Macartney, M.D. of the Universities of Dublin and Cambridge.
W. Madden, jun., M.D., 75, James's-street.
Jacob Meade Swift, M.D., one of the Physicians of Sick Poor Institution, and Correspond. Member of N.V.E.
James Mitchell, M.R.C.S.L.
John Neary, M.R.C.S.L., No. 8, William-street.
John Coulter, M.D., Edinburgh, M.R.C.S., 46, York-street.
J. Henry, M.R.C.S.L., 35, Upper Sackville-street.
John O'Galligan, M.D., T.C.D., 46, Marlboro'-st.
Charles M'Carthy, M.D., T.C.D., Sen. Physician, Dublin General Dispensary.
K. J. Molloy, M.D., 199, Great Brunswick-street.
Wm. Geraghty, M.D., one of the Physicians of the Dublin General Dispensary.
H. C. Field, M.D., M.R.C.S., London, and Incumbent of Stillorgan Dispensary, Black Rock.
J. P. Mathers, M.R.C.S., London, 72, Camden-st.
Richard Dyas, M.R.C.S., London, Waterford.
Richard Houtney, M.R.C.S., London, Irishtown.
Eps. Young, M.D., Edinburgh, and M.R.C.S., London, 57, Great Britain-street.

J. B. Price, M.D, 3, Harcourt-place.
James Cuthbertson, M.R.C.S.L., 58, Dorset street.
Richard Swift, M.D., Surgeon, M.P., 60th Rifles, 2, Herbert place, Baggot-street.
Henry Toaff, M.D., of Edinburgh, M.R.C.S.L., and one of the Physicians to the Dublin Gen. Disp.
John Aldridge, M.D., 1, Duke-street.
Edward Mulligan, M.D., one of the Physicians to the Dublin General Dispensary.
James Murray, M.D., Un. D. and Ed., 8, New-square, Dublin.
John Callan, M.D., Merrion-row.
James Maurice Fitz Gerald, M.D., M.R.C.S.L., Haddington-road.
John Nalty, M.D., 6, Clare-street.
Henry C. Walton, Surgeon, &c., to Dundrum Disp.
Thomas Collins, M.R.C.S.L. 48, William-street.
Hall Breden, M.D., M.R.C.S.E.. 24, Townsend-st.
Richard Henry, M.R.C.S. London, 47, New Hill.
George Fallon, M.R.C.S., London, 3, Usher's Island.
John Dobbyn, M.R.C.S., London, 12, Dolier-street.
Joseph Huffay, M.D., Kingstown.
W. H. Hawkey, M.D., M.R.C.S.L.
George Dyas. A.M., M.B., T.C.D., 35, York-street.
Wm. Shaw, M.R.C.S.L., 71, Great Britain-street.

IRISH MEDICAL CHARITIES BILL.

PETITION OF MEDICAL STUDENTS AGAINST CERTAIN CLAUSES IN THE MEASURE.

THE following petition, signed by medical students of Ireland who intend to become candidates for membership in the London and Edinburgh Colleges, agreed to at a public meeting held at the Peter-street School of Medicine, March 1st, 1838 (T. B. O'Meara, Esq., in the chair, W. D. Murphy, Esq., Secretary), has been forwarded to Mr. WAKLEY for presentation to the House of Commons. Amongst the resolutions passed at the meeting were some to the following effect:—

"That we have reason to believe, from the statement of the hon. Member for Roscommon, that both himself and the public have been imposed upon by an appearance of liberality on the part of the Dublin College of Surgeons, in opening the county infirmaries to the licentiates of other surgical corporations by the aforesaid Bill; whereas by the wording of the 16th clause, members of that body contemplate our exclusion from the county infirmaries, dispensaries, and lunatic asylums, prisons, &c., to which we are at present eligible.

"That we, the students, who intend to graduate at the London and Edinburgh Colleges, consider ourselves, in point of professional information, not at all inferior to the students of any other college, and that instead of certificates being demanded as a proof of professional acquirement, by the Commissioners proposed in the said Bill to be appointed, in order to entitle a man to offer himself as a candidate for the abovementioned situations, he should, on showing his diploma, *undergo a public examination* by those Commissioners, to entitle him to be elected to such office.

"That the Secretary of this meeting do write to the Council of the London College of Surgeons, requiring that they would interest themselves in behalf of the members of that College, and also the students about graduating in it.

"That the petition of this meeting be intrusted to Mr. Wakley, for presentation in the House of Commons, and that Mr. Warburton be requested to support it; that in the Peers, to Lord Cloncurry, and the Earl of Wicklow."

To the Knights, Citizens, and Burgesses in Parliament assembled.

The humble Petition of the undersigned Medical and Surgical Students, at present studying in the several schools of medicine and surgery in the city of Dublin,—showeth

That having received copies of the "Bill for the better regulation of Hospitals, Dispensaries, and other Medical Charities, in Ireland," they have given same their best attention; and as the individuals most deeply interested in the matter, after the most patient investigation, beg leave, most respectfully, to state the result of their deliberations:

That they most fully concur in the expediency and general principles of the Bill as brought in; in fact, have no objection to it as it now stands, with the simple exception of the 16th section, to which they most earnestly turn the attention of your honourable House:

By that clause it is proposed to be enacted, that in addition to the letters testimonial, or diplomas, to practise surgery, obtained from any "college or university in Great Britain or Ireland, duly authorised by royal charter or statute to grant the same," medical gentlemen, before they are even entitled to become candidates for any of the situations mentioned in said Bill, must be able to produce, in addition to such diploma as aforesaid, "such certificates or testimonials as shall be sufficient to prove, and show to the satisfaction of the Commissioners of Medical Charities, that they have pursued their professional education and studies in some hospital or school of medicine for *five* years, and also that they have diligently attended the practice of an hospital for *three* years at the least, and that they have been examined by a Court, or Board of Examiners, of some University, as aforesaid, for two hours at the least, touching and concerning their knowledge of anatomy, surgery, practice of medicine, pharmacy and midwifery:"

That the effect of such a clause, if passed into a law, would be most ruinous to your Petitioners, the *entire* of whom intend to take out their diplomas either in London or Edinburgh:

It will be perceived, that in the 16th section above recited, it is a necessary qualification for every candidate, *besides* the production of his diploma, to possess a certi-

ficate of having passed an examination of two hours duration:

Now, it so happens, that by the constitution of the Royal College of Surgeons in London, one hour's examination is, and always has been deemed, quite sufficient by the Examiners to test the knowledge of candidates seeking diplomas in surgery; and will it be contended for a moment that such a procedure has been at all detrimental to its *fame* as the *first institution* in the world, an institution that has produced the greatest men that ever enlightened and adorned the profession:

That it so occurs that the Dublin College of Surgeons requires an examination of *two* hours, and thus your honourable House will at once perceive the object of the addenda to the 16th section. That although there is an APPARENT liberality on the face of the Bill, offering the situations to members of ALL the Royal Colleges of Great Britain and Ireland, still that the additional certificate required by the above section would have the effect of allowing licentiates of the Dublin College to monopolise same. For instance, suppose the Bill has passed, and that a vacancy occurs in an hospital or dispensary; an eminent surgeon in extensive practice wishes to obtain it; he produces his diploma to the Commissioners; his qualifications are indisputable, but they are constrained by this Act not to allow him to offer himself as a candidate, because, FORSOOTH, he is only a member of the Royal College of Surgeons in London, and, as such, has not passed through the indispensable ordeal of a two hours' examination. Can we rectify this? Decidedly not. If he goes to London the Examiners of the College there will refuse to examine him on the very proper grounds, that he has been partially and carefully examined already. And that it would be casting a stigma on themselves if they acceded to it; thus the London and Edinburgh surgeon is left without the slightest redress. That your Petitioners, who intend to pass through the London College, will be placed in a similar situation, and deprecate, in the strongest terms, any invidious distinction between the Colleges of Great Britain and Ireland, and hope that your honourable House will not sanction same:

That your Petitioners most respectfully suggest, that so much of the said 16th section as requires the production of additional certificates, and *two* hours examination, be expunged, and that in lieu thereof the qualifications requisite in order to obtain any office under this Act, be that on the exhibition of the diploma of any of the Royal Colleges aforesaid, the Commissioners appointed by this Act shall be empowered to examine the persons producing same in the minutiæ of their professional acquirements, as strictly as they shall think fit; and upon their being found eligible, that they may give the certificate mentioned in the 17th section of said Bill. Your Petitioners again beg leave respectfully to point the attention of your honourable House that the abovenamed restrictions as to certificates and examination contained in this Bill are to be found in no other Act of Parliament regulating medical situations that had hitherto passed, and trust that your honourable House will not be the first to recognise any unwarranted distinction between the members of the several Colleges:

And your Petitioners will ever pray.

John A. Corbett
W. D. Murphy
Davis Lucas
James F. Crawford
A. T. Kehoe
James Wm. Young
Joseph Robinson
Jephtha Hussey
Alexander Mac Donnell
George F. R. Major
Edw. M. Davies
Wm. Fred. Richey, A.B.
Francis J. Lanigan
Edward M. Duffy
Wm. Henry Montford
David Burns
Robert R. Smith
J. Edgar
Patrick Burke
John M. Lynam
Thomas Murray
Frederick Smyth
Gilly Love
James Carew
James Irons
Patrick M'Shane
Henry Lucas
Mark Sweeny
Daniel N. Wallace
James M'Donogh
C. L. Malet
G. R. Richey
Robert Newbold
John Worthington
George Kingswell
Thomas Spier
Michael Blair
Richard M'Guire
John Edgar, A.B.
Arthur Bowen
W. W. Irwin
Ralph Coulson
James Holmes
Henry Benjamin Oakes
John Smith
James B. Parker
Patrick Smith
Robert Saunderson
James Davis
Thomas Knox Kelly
Wm. Moss
Edward Walker
Michael Hurley
P. R. O'Reilly
Francis B. Ryan
John Acton
R. H. Anderson
W. T. Murphy
Pierce Ruteon
Patrick J. O'Callaghan
Wm. A. Jansen
Michael P. Balfe
Charles M'Carthy
George Shannon
Thomas Tuomy
A. Moffitt
John Kearney
James M'Parland
Thomas B. O'Meara
Mark Anderton
Ralph Coulson
Henry Smith
Nicholas Kenedy
Michael Flood
Richard Butler
John Butler
Richard H. Coote
John Johnson
Denis Sheehan
Matthew Wyatt Eager
Joseph L. O'Brien
Jon J. Lardner
John Collison
James Hall
John Wm. Considine
William Blackburn
John Sands
Michael Brennan
William Abbott
Thomas Jenkins
Arch. Stephenson
Wm. Stephenson
E. M'Carthy
John Wilson
Henry Antony
John Sharpe
Dennis Greaven
Henry Smyth
Michael Gallagher
John Jeffcott
John Hughes
James M'Gettigan
Richard Butler
Wm. Carson
Edward Layng
Thomas Antisell
Wellington Poole
Thomas Riordan
James C. Walsh
John H. Prosser
John Purcell
Wm. E. Reardon
Thomas Spain
E. Walsh
Mark Hamilton
Thomas Henry Aickin
John W. Johnston
Thomas Mawe
Edmond Barry
Edward Vickery
Samuel Manning
John Hilary Haire
W. R. M'Laughlin
John M'Grath
James Mangan
Thomas Denvir
R. Stephens
Robert Mulreaney
Robert P. Roberts
Joseph Mubreney
Henry J. O'Donnell
A. Holme
Joseph Arthurs
Irwin Wm. Darrier
Michael R. O'Shea
S. N. Phillips

Bernard Conolly	John Willy
James M. Loughlin	Edward Clarke
George Williams	Wm. O'Grady
Henry Hamilton	A. Stevenson
Richard E. Scott	P. W. Borrows
Wm. Johnson	James Kavanagh
Richard Beatty	Langton Scully
B. Young	J. J. Hamson
Arthur Palmer	Patrick O'Connor
Thomas Palmer	John Thomas Ashe
Wm. Dyas	James Crofton
Thomas Doyle	J. Bird, A.B.
Edmond Barry	James D. Nelligan
Jeremiah Crowley	Thomas Ruth
John Russell	Rossiter Pierce
J. Wybrants	Wm. Horsbrooke
Charles Holmes	James Keogh
James Holmes	Alfred Howard
Robert Graves	Nicholas Brady
Henry Holmes	James Cullenan
Richard J. Sutherland	John M'Min, jun.
Thos. B. Kelly	A. Mitchell
Richard Harrington	M. Coppin.
Edward Coote	

MEDICAL SOCIETY OF LONDON.

Monday, March 5, 1838.

Mr. Bryant, President.

HERMAPHRODISM—INFLUENCE OF PECULIARITIES OF THE GENITAL ORGANS ON THE BODILY CONFORMATION. WHAT DETERMINES THE SEX OF OFFSPRING? SINGULAR MARRIAGES. MALFORMATIONS. IS THE FŒTUS IN UTERO AFFECTED BY IMPRESSIONS MADE ON THE MOTHER?

Mr. Pilcher exhibited a preparation of malformation of the genital organs taken from a lady who had been under the care of a friend of his in the country. She was 65 years of age, and had always been of a reserved character. Shortly before her death it became necessary to relieve the bladder by the introduction of a catheter, and then it was ascertained that a degree of malformation existed. After death, the following state of parts was discovered. The clitoris was very large; two labia, of small size, ran down on each side of it; a little below the clitoris was the urethra, and immediately underneath this orifice the perineum commenced, the parts being completely in contact. There were rudiments of the uterus and vagina, the latter terminating in the urethra, which formed the only communication with it. The corpora cavernosa were large, and a prostate of considerable size surrounded the neck of the bladder. Attached to the urethra was a bulb with a few muscular fibres around it, rudimentary of the ejaculatores seminis. The hair on the pubes passed higher up than is usually observed in the female—the mammæ were totally absent; she was somewhat muscular, and had a "tremendous beard." As far as inquiries had extended she had never menstruated. Her friends had never any idea of any kind of malformation, though it would appear that she herself had some suspicion of the fact, as she had a very particular objection to any one being in her sleeping apartment. She had been left an orphan at an early age, and had never shown any amorous propensities. No information could be given regarding the cerebellum, or the conformation of the pelvis.

Mr. Kingdon said this case came nearer to the point of exhibiting the rudiments of both sexes than any he had ever before seen. The penis was certainly as large as many he had seen in the fathers of families; there was a bulb and something like a prostate present; so far the conformation was that of the male. The presence of the rudimentary uterus and vagina, with the ovaries, were rudiments of the female structure, hence the main characteristics of both sexes were present. The external appearances were more those of the male than of the female; he never saw a female in whom the hair on the pubes exhibited the form of growth observable in this case. He had no doubt that peculiar organisation of the genital organs affected the mode of growth after puberty, and related two cases in point. In one of these, the young woman, who was married, bore every resemblance, in conformation, to a fat boy. She had no feeling of shame on being examined, and no sexual desire. In this case, the opening into the vagina was as large as the urethra only. The vagina terminated in a cul de sac, and there was no uterus. She got married merely because she had known her husband a long time, and wished to cook his victuals, &c. In the other case, that of a lady of most perfect conformation and well-developed mammæ, the vagina was entirely absent, and its space filled up by condensed cellular tissue. In this instance, the uterus was present, and she occasionally menstruated, he supposed, through the urethra, which terminated between the nymphæ, these and the labia being present, the space for the orifice of the vagina being filled up with a semi-cartilaginous membrane. In this case the patient had no sexual desire.

Mr. Pilcher alluded to the case of the woman Brown who was murdered by Greenacre; this woman had a vagina, but no uterus; yet her breasts were well developed.

Mr. Howell asked if members had never been consulted respecting an unusual smallness of the vagina. He had been consulted in a case in which the vagina was so contracted that a bougie, half the size of his little finger, was, with great pain and difficulty, passed into it. The young lady had all the usual sexual propensities, and menstruated with great pain and difficulty. Regarding marriage, he knew an instance in which a well-formed man, with a beard and other characteristics of manhood, married a beautiful woman three years since, and had never made the slightest approaches to her, for reasons which his wife did not know. He (Mr. H.) thought the cerebellum had little to do with amatory propensities. Ma-

gendie had related the case of a girl much addicted to masturbation, in whom there was no cerebellum.

Mr. PILCHER, in reference to malformation, said, he thought this term was used too vaguely; generally speaking, he believed that what were called malformations, were dependant on imperfect development; and this, he thought, was the fact in the case he had brought before the Society; in which, as in the fœtus, we could not distinguish the difference between the clitoris and the penis. The organs of generation, as had been observed by the most eminent physiologists, were originally formed alike; and it seemed to depend on the powers of formation in the ovum, whether the future being should be male or female. Now, let anything interfere with the nutrition of the fœtus, either through the circulation of the placenta or the mother, he could easily imagine there would be a cessation of development, and the fœtus would be malformed. It would appear, in the case under consideration, that Nature had intended to form a male, there had been an interference in the development, and the result was as seen. It was a curious fact, that malformations of the genital organs were most frequent in males, while malformations of other parts of the body were most common in females. Malformations, generally, were deficiencies in development, as was instanced in malformations of the eye, ear, spine, &c., of course leaving out tumours, &c. which grow after birth. In speaking of the subject of development, he did not mean to say that the female organs were a deficiency of the male organs, but that there was less vigour of growth in the ovum of the female than in the male; what decides that varied power of formation could not be determined, but it led to a very interesting point in physiology, viz., What determined the sex of the child? It had been considered, by some, that the sex of the progeny was dependant upon the vigour of the respective parents; thus, for instance, a vigorous and healthy father would beget more sons than daughters, while, on the contrary, the feeble, prematurely married, or old man, would have more female than male children. From many observations which he (Mr. P.) had made on the point, he was inclined to think this opinion was a correct one.

Dr. SHEARMAN related the case of a gentleman who, in the vigour of life, procreated six daughters, while in the decline of life he had a seventh child, and this was a son. He thought similar circumstances were not uncommon, and militated against the opinion of Mr. Pilcher.

Dr. LEONARD STEWART believed that many cases of malformation depended on excess of development. Was it not so where there were six toes on one foot in a child, and in those cases of doubtful sex in which the organs of one of the sexes were complete, with some belonging to the other, superadded.

Mr. CRISP was of this opinion also, and mentioned the case of a child with two heads, one of which was florid and healthy, the other pale and lifeless. He differed from Mr. Pilcher regarding his theory of the determination of the sex of children.

Dr. T. THOMSON said, that respecting the causes which determine the sex of offspring nothing as yet had been advanced by physiologists to clear away the obscurity. Statistical observation had, however, decided thus much, that the majority of children of healthy parents, in the prime of life, were males, while weaker and older persons had a majority of female children. He remembered hearing a discussion in Paris on the subject, the opinion entertained generally was, that in most countries the majority of the first children were males, because the sex of the offspring corresponded with that of the parent with the preponderance of power. In Paris the majority of first children were females, and this was accounted for by the superior boldness of women in that country.

Dr. L. STEWART was consulted last year by a gentleman who had been totally impotent for many months, and had never been able to have intercourse with his wife. This gentleman had assured him (Dr. S.) that the lady was not at all aware of this inability to perform the matrimonial duties, and it was only until after her friends had questioned her closely that she discovered the fact.

Mr. ROBARTS said, if the opinion, which had been expressed concerning the determination of the sex of offspring were correct, then it would follow that in manufacturing districts the majority of children would be females, and in agricultural parts, where the population was more vigorous, the greater number of sons would be born. It had been ascertained by statistical observation of the peerage, that if a man marries a woman ten years younger than himself male children will form the majority of the offspring; but if, on the contrary, the wife were ten years older than the husband, the majority of their children would be females.

Mr. CRISP did not see that any benefit could result from pursuing the investigation. There was a question of great interest connected with malformation which he thought more worthy of consideration. Could an impression on the mother be communicated to the fœtus in utero? Had any member seen a case in which such impression affected the child?

Mr. HOWELL remembered a case which was brought before the Society some years since. A lady having been frightened by a beggar holding up the stump of his arm and

wishing her offspring might be born like him, was actually delivered of a child with only one arm. He (Mr. H.) should wish to know, in cases of spontaneous amputation in utero, as it was called, what became of the amputated limb, for he never had heard of a case in which the limb had been found.

Mr. PILCHER considered that the case of the peerage brought forward by Mr. Robarts, strengthened his view regarding the cause of the determination of offspring, inasmuch as the man ten years older than the woman would be more likely to be in the full vigour of life; if ten years younger, he would probably have been married prematurely, and would have been the less vigorous parent. Regarding malformations, he thought the case of the child with two heads favoured his view of the subject, for, in his opinion, there had been an attempt of Nature in this case to form a second child.

Mr. CRISP considered that deficiency of development certainly could not account for calves having six legs, &c.

Monday, March 12th, 1838.

Mr. BRYANT, President.

MALFORMED HEART.—THE ORATION.—THE PRIZES.

The evening was chiefly occupied by the passing of votes of thanks to the various officers of the Society.

Mr. PILCHER exhibited a specimen of malformed heart; the pulmonary artery and its right and left divisions were unusually small; the aorta, instead of passing in front of the trachea, passed behind it, and also behind the right bronchus; the first artery given off after the coronary was the left carotid; the next, the left subclavian; the arteria innominata formed the third branch; the aorta proceeded from both ventricles; the septum ventriculorum was deficient. The patient, a young man aged 24, had been brought into the dissecting-room, and was said to have died of consumption; the left lung was one large abscess; the right lung was perfectly healthy; there was not the slightest appearance of cyanosis.

A paper was afterwards read by Mr. KINGDON, entitled "Thoughts suggested by a Discussion at the Society on the 22nd of February;" the discussion was printed in a late number of THE LANCET. The chief object of the paper was to show the great importance of a knowledge of the sympathies of the human body, and the effects of medicines on healthy individuals.

The anniversary meeting of the Society was held on Thursday, the 8th of March, Dr. T. THOMSON, orator, who, in a masterly oration, proved the advanced state of medical science by a reference to various statistical documents, and in the course of his remarks made some severe strictures on the present mode of medical contracts under the new Poor-Law.

The Fothergillian medal for the year was awarded to Mr. Pilcher for an "Essay on the Anatomy, Physiology, and Diseases of the Ear." The Society's medal to Mr. W. C. Dendy for a paper on the axiom of John Hunter, "That no two Diseases, &c." An abstract of the paper will be found in THE LANCET at page 95 of the present volume.

The Fothergillian Prize Essay for 1839 will be on the "Use and Abuse of Mercury," and that of 1840 on "Bronchitis."

MEDICO-BOTANICAL SOCIETY.

Wednesday, February 28th, 1838.

EARL STANHOPE, President.

CREOSOTE IN TOOTHACH — AS AN EXTERNAL APPLICATION TO CERTAIN CUTANEOUS ERUPTIONS.

Mr. EDWIN SAUNDERS read a paper on the employment of creosote in toothach. The author commenced his paper by giving a brief account of the discovery and various uses of the drug in question, and then made some general preliminary remarks on toothach. Under the term toothach, he says, is commonly included a variety of affections, in which the teeth are in any manner implicated, whether or not they are the organs primarily affected, or the immediate exciting cause of the disease. A very slight acquaintance with the structure and physiology of these organs will show that they may excite pain and morbid action from a variety of causes; thus, they may themselves fall into a diseased condition, and become the source of pain of unusual acuteness and severity, or they may excite irritation of an equally intolerable, though less exquisite, character, by producing inflammation in the membrane lining the alveolar cavities, and investing their roots. It is also by no means an uncommon circumstance for a morbid degree of sensibility to be induced in the bony structure of the tooth, rendering it painfully susceptible of the slightest change of temperature, simple pressure, or the action of acid. Here, then, we find three different structures liable to come into a morbid condition, and each productive, when in this state, of pain of an unusually severe description. On a closer examination it will be found that in each of these cases the pain produced exhibits different and peculiar characters, varying with the particular structure which may be implicated; thus, in the first case, or when the pain arises from exposure of the internal membrane, occasioned by what is commonly called caries in the bone of the tooth, which is by far the most common cause of toothach in early life, the pain will be of an excruciating and

intolerable character, occurring in paroxysms, which, however, may be excited by any slight change of temperature in the mouth, or by the presence of any foreign body in the cavity of the diseased organ. In that form of toothach which is produced by inflammation of the periosteum and lining membrane of the alveolus or socket, the pain will assume more of the chronic character, rendering the whole tooth exquisitely sensible to the slightest pressure (while in the former case the tenderness will be confined to a single spot in the diseased cavity), the pain being also continuous and slightly exacerabated by the patient becoming warm, by active exercise, or on retiring to rest. The third kind of odontalgia, that in which there is an extreme degree of sensibility in the bone of the tooth,—a form which the author considers to be one of the most striking proofs of the vascularity of the structure,—as it is of a less serious and more temporary nature than the others, ought not, perhaps, strictly to come under the class of diseases of the teeth. This pain is generally the result of sudden exposure of some portion of the neck of the tooth, occasioned by rapid absorption of the alveolar process and gum, but it is frequently nothing more than a symptomatic affection, especially prevalent among young ladies at the termination of the season in London, and subsiding as the tone and vigour of the constitution are recovered; in such cases, however, creosote is not valueless; a lotion composed of two ounces of distilled water, and two drops of pure creosote, frequently allays the tenderness in a very remarkable manner, and this, or the spirits of camphor, are decidedly the most efficacious applications under this affection. Rejecting, then, the last-mentioned affection as not coming within the category of diseases of the teeth, we have, at least, two distinct species of toothach, arising from two distinct sets of causes; the first arising in the organ itself, the last in the enveloping membrane. After taking a view of the anatomy of the teeth, and the mode of their articulation, in order to better discriminate the nature and seat of the diseases under each of these distinct kinds of toothach, the author proceeded to show that creosote, in its undiluted state, is applicable only to the former of these cases, viz., where the internal membrane is suddenly exposed. To obtain the most decided good effects from the creosote, some precautions are necessary to be observed in its application. First, the cavity should be wiped out with a piece of lint, gently introduced on the point of a fine probe; secondly, the piece of lint, or wool, which serves as the vehicle for the introduction of the creosote, should be so small as not to require any pressure for its insertion, which pressure would cause it to part with a portion of the drug, and prevent its reaching the seat of the disease; thirdly, the piece of lint, or cotton, should not be too fully charged with the creosote, considerable pain and inflammation being frequently the result of the effusion of a small quantity on the gums and lips. If relief be not obtained immediately, the application may be renewed every ten or fifteen minutes until some effect is produced. If the tooth be situated in the upper row it is useful to make the patient recline with the head low on the side in which the affected tooth exists, to enable the application more readily to reach the diseased structure. It would be scarcely necessary to observe, were it not that the notion has been entertained by some of its more zealous advocates, that creosote can exert no preventitive effect upon the decay of the tooth; it simply alleviates the pain, without, in any degree, arresting the caries, for which different treatment must be sought. The contrary opinion, however, that it accelerates the decomposition of the tooth seems to be equally without foundation, since it exhibits neither alkaline nor acid qualities on the application of the most delicate tests. The precise mode of its action is not clearly understood; it appears most probable, however, that it acts as a powerful anodyne by exhausting the nervous energy, and as creosote has been employed for arresting hæmorrhage, it may relieve the congested state of the membrane by causing a sudden contraction of its vessels; it was, doubtless, to the creosote which it contained that the old popular remedy for toothach, the oil of burnt paper, was indebted for its virtues. In the other class of affections included under the term toothach, creosote in its undiluted state is not applicable. The lotion, before referred to, may sometimes allay the tenderness, but the abstraction of blood by leeching or scarifying the surrounding gums is the only treatment likely to be efficacious. The impropriety of regarding toothach as a purely nervous affection was pointed out, and the following diagnosis suggested in conclusion:—In a case of toothach it will be necessary to inquire, first, whether the pain be of a violent and excruciating kind, or of a chronic and rheumatic character; second, whether the *whole* tooth be tender or unusually mobile, or whether there be one particular spot in a carious cavity, to which the exquisite sensibility is confined; third, whether the pain originated in a sudden paroxysm, or supervened in a gradual manner upon cold or injury; if it exhibit the former of these characters, that is, if the pain be exceedingly acute, confined to one spot, with the exception of which the whole tooth may be pressed upon with impunity, and if it occur in violent and sudden paroxysms, creosote may be employed with the best results, in the manner and with the precautions already pointed out; if, on the contrary, the symp-

toms be of an opposite description, it will be not only useless but injurious.

The PRESIDENT had recommended the use of creosote in toothach in a number of instances, and its application was successful in relieving the pain.

Mr. ILIFF said, that in cases of porrigo he had found an ointment, composed as follows, of great benefit in relieving the irritation, and removing the disease where it depended on local causes; half a drachm of the oxide of zinc, an ounce of lard, and forty drops of creosote. In cases also of bricklayer's itch, arising from the use of lime, the external application of creosote was very serviceable. The great objection to its use was its powerful odour, and we knew of no means at present to prevent this.

Dr. SIGMOND said, that creosote in some cutaneous affections, in which the digestive organs were in good order, had a most beneficial effect as a local remedy. In the proportion of one part of creosote to three of olive oil, it had great influence in relieving that intolerable itching about the anus, depending on increased secretion from sebaceous follicles, and which has been said to produce mania. In applying it as a remedy in toothach, it was extremely necessary that not the least drop should escape on the mucous membrane, as in some cases it produced considerable inflammation.*

UNIVERSITY COLLEGE HOSPITAL.

REMOVAL OF A LARGE NÆVUS.

J. C. was admitted February 10th, under the care of Mr. Liston. He is by trade a tailor, of regular habits, and generally in the enjoyment of good health, except that he has suffered from an hepatic affection for the last six months; from this, however, he now seems recovered. He says he was born with a small pimple beneath the chin; the skin covering it was of the natural appearance of the cutaneous tissue, quite soft to the touch. This tumour continued to increase gradually in size, but was productive of no pain or inconvenience until he was six years of age. At this time he fell upon a heap of flints and wounded the tumour, which for two years afterwards discharged a considerable quantity of semipurulent matter. This gradually ceased, but he was left so weak as to walk about with considerable difficulty. During this period there was no perceptible increase in the size of the tumour. Since then, however, it has again continued to enlarge till it has attained its present dimensions. Six months since he punctured it by accident with the point of a pair of scissars, in consequence of which there was hæmorrhage to the extent of about half a pint.

Present condition.—The tumour is situated beneath the chin, having its attachment to the skin covering the symphysis of the inferior maxilla, to midway between this point and the angle of the jaw on each side, descending straight down from thence to the pomum adami, which can be plainly felt. The tumour is pendulous, the skin covering it quite loose, and of a natural appearance, except at the inferior part, where it has a livid or mulberry hue, for about the space of a crown-piece. The skin covering the tumour is, however, less sensible than that of the rest of the body, and is covered with the hair constituting the beard. The tumour is of the size of a large orange, not at all pulsatile, yields little to the touch,—more so when he is warm and his circulation quickened. The swelling is not diminished by pressure. At thirteen years of age he was to have been apprenticed to a basket-maker, but the stooping and hanging down of the head produced such a feeling of fullness and giddiness, that he could not continue the employment. The same inconvenience does not attend his present business. No difficulty is experienced in deglutition or respiration.

Ten grains of rhubarb pill at night; *a draught* to-morrow morning.

12. Mr. Liston removed the tumour today. He commenced the operation by pinching up the skin at the lower part of the growth, and dividing it; the incision was thus extended up to the symphysis of the jaw. Another incision was made so as to embrace an elliptical portion of discoloured and adherent integument. The coverings were dissected back from the body and neck of the morbid mass. Several vessels bled freely, but were stopped by pressure with the fingers of the assistant; the tumour was separated from its attachments, and a ligature carried through its base, and tied on each side. The greater part of the tumour was then cut off, and presented the interlaced spongy appearance of erectile tissue. The integument was laid down and kept in its place by one point of suture, and lint dipped in cold water applied. No vessels required ligature. A phlebolite was found in one of the large venous trunks on the lower surface of the tumour.

In lecturing on this case Mr. Liston made some observations on the various modes which had been adopted by surgeons for the removal of nævi, and which will be found at p. 511 of THE LANCET, vol. I., 1836-37. In addition to the plans there detailed, it had lately been proposed to destroy the tissue of vessels by passing a needle into the

* Dr. Elliotson employs creosote as a lotion in impetigo, eczema, and other cutaneous diseases. One drop of creosote to two, three, four, five, or six ounces of water, according to the effect, are the proportions in which it is used.—REP. L.

growth and moving it about freely, so as to divide the vessels which form the tissue. This plan had been supposed effectual by some surgeons. It was the invention of a physician, and might be employed with advantage in slight cases. In large growths, however, it could not possibly be of benefit. The plan he (Mr. L.) had been in the habit of carrying into effect, had been stigmatised as barbarous, but it was surely more barbarous to subject the patient to a variety of torturing means which did not offer a reasonable chance of success. He had succeeded in removing this kind of growth by the plan used in the case above, in which as many as nine and even eleven operations of various kinds, had been previously performed without any good result. In cases of true aneurysm by anastomosis, the proceeding by incision and ligature was undoubtedly the best.

VERDICT OF MANSLAUHTER AGAINST A SURGEON.

At the assizes, held at York, on the 9th of March, Mr. Matthew Pilling, who is represented to have been a highly respectable general practitioner, was indicted for the manslaughter of Isabella Turner, whom he attended in labour, and was found guilty. The report of the trial, which we have seen in the "Morning Chronicle," of Monday, March the 12th, is so meagre, that it is impossible for us to form any judgment as to the merits of the case, upon such imperfect evidence. The letter of a correspondent relating to the trial in this week's Lancet, is obviously that of a partisan, whose feeling of friendship may be respected, if not his opinions.

CARCINOMA OF THE TESTICLE IN A DOG.

At the last meeting of the *Medical and Chirurgical Society*, some preparations were exhibited by Mr. Langstaffe. The first consisted of the left testicle of an old Scotch terrier affected with carcinoma. In this specimen not a vestige of natural structure was visible. On the external surface of the morbid production, and beneath the albuginea, there were several different sized tumours possessing the same diseased character as that observed in what was originally the testicle. The epididymus was perfectly healthy; the albuginea and vaginalis tunics greatly thickened; the spermatic chord was natural in structure, but the vas deferens was impervious. The second preparation exhibited the right testis from the same animal. It was found within the abdomen, and was not more developed than one belonging to a young puppy, yet natural in structure. A similar want of development, Mr. Langstaffe observed, is occasionally seen in the human subject, specimens of which he has in his museum. He also observes, that dogs, as well as many other animals, are liable to be affected with fungous hæmatodes and carcinoma in various parts of the body; but he had never found the testicle of a dog, except in the present instance, affected with carcinoma.

The liver, and also some of the ribs and other bones, presented the same morbid lesion seen in the testicle.

TO CORRESPONDENTS.

Practising Druggists.—A correspondent in the south of England, in illustration of the mischievous operations of gentry of this description, says,—"There is a small druggist in my neighbourhood who inoculates, vaccinates, and attends cases of surgery, as well as medical cases, who has been reported by me to the *Royal College of Surgeons*, as well as to the *National Vaccine Establishment*, but of whom no notice has been taken by the authorities in either of those institutions. A very short time since a noble lord requested me to visit a poor woman, in consequence of his lordship having been sent to by another little druggist, who had served one year in a country shop, for the gift of a bottle of port wine, to infuse some drug in *for a patient of his*, who he said was dangerously ill, and whom I found labouring under very profuse *uterine hæmorrhage* preceding abortion at three months, to cure which he said he had a specific!"

Probably the "Dublin Evening Packet," of Feb. 8, was forwarded to us in order that we might notice the long letter of Mr. Wilkinson on the "inquest at Blackrock," which concludes with the following observations on the verdict, and the office of coroner:—

"In summing up the entire of this strong evidence, it appears strange that such a verdict should have been returned, and, more strange, persevered in on the second investigation; and that without dissection—no examination having taken place by any means sufficient to meet the wishes of all persons here, who are anxious to have truth made manifest, and justice done.

"A portion of the faculty has long been urging the Legislature as to the office of coroner, and pointing out the absolute necessity that this officer should not only be medical, but, from his experience and study, specially accomplished in this branch of the science. It may be well to consider whether the present sad case does not furnish another argument in support of such opinion."

The moral of the letter, thus expressed, is wholly lost upon us; for, in addition to the other details of the inquest, Mr. Wilkinson has not remembered to print *either the verdict, or the charge of the coroner!*